answers 2

EasyGuide

LIFEBOOK S Series

English

FUJITSU COMPUTERS SIEMENS

Are there ...

... any technical problems or other questions which you would like to be clarified?

Please contact:

- your sales partner
- your sales outlet

Additional information is provided on the Help Desk list and in the "Warranty" manual (the "Warranty" manual is included on the "Drivers & Utilities" CD provided).

The latest information on our products, tips, updates, etc., can be found on the internet under:
http://www.fujitsu-siemens.com

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Fujitsu Siemens Computers GmbH

Order No.: **A26391-K144-Z120-1-7619**
Edition **2**

AG 0804 08/04

LIFEBOOK S Series

Operating manual

August 2004 edition

This manual was produced by
cognitas. Gesellschaft für Technik-Dokumentation mbH
www.cognitas.de

Contents

Your LIFEBOOK S Series ...

... is a versatile and ergonomic notebook. Innovative technology and ergonomic design make this notebook the ideal user-friendly and reliable travel companion.

Your operating system is pre-installed on the hard disk to facilitate the procedure when you use your notebook for the first time.

Your notebook has 256 Mbyte - 2 Gbyte of main memory installed, depending on the upgrade level. Data is stored on a hard disk drive. Two PC card slots (CardBus or PCMCIA) enable the notebook to operate two type I or type II PC cards or one type III PC card.

Your LIFEBOOK is also equipped with a multi-function slot. The following modules can be operated in the module slot of your notebook:

- Hard disk drive
- DVD-ROM drive
- Combo drive (CD-RW/DVD)
- DVD+RW drive
- Second battery
- Weight Saver

Your notebook offers a Touchpad (and as an option also a TouchStick) for mouse control. A double-touch directly on the touchpad is all that is required, for example, to open an application.

A port replicator can be connected to your notebook. The port replicator has connectors for external devices such as external monitor, printer and mouse. The parallel port is designed for fast bi-directional data transfer. You can connect peripheral devices such as a scanner, loudspeakers, gamepads, keyboard, or mouse via the four USB ports.

An audio controller and two internal loudspeakers provide your notebook with an audio capability. You can also connect an external microphone and active loudspeakers.

The system settings of the notebook can be configured via the user-friendly *BIOS Setup* programme. Certain system settings (e.g. screen display, volume) can be modified via various key combinations while you are using the notebook.

Your notebook has a number of security functions to ensure that no unauthorised persons can access your data. For example, you can protect access to your data with the security functions in the *BIOS Setup* or with the security panel.

This operating manual tells you how to put your notebook into operation and how to operate it in daily use.

Further information on this notebook is provided:

- in the "Getting Started" manual
- in the "Safety" manual
- in the "Wireless LAN" manual
- in the documentation of the operating system
- in the information files (e.g. **.TXT*, **.DOC*, **.WRI*, **.HLP, *.PDF*)

Notational conventions

The following symbols are used in this manual:

Indicates information which is important for your health or for preventing physical damage. Failure to follow the instructions may lead to loss of data, invalidate your warranty, destroy the notebook, or endanger your life.

Indicates important information which is required to use the system properly.

► Text which follows this symbol describes activities that must be performed in the order shown.

`This font` indicates screen outputs.

This font indicates programme names, commands, or menu items.

"Quotation marks" indicate names of chapters, data carriers, and terms that are being emphasised.

Important notes

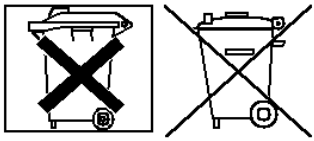
Here you will find essential safety information regarding your notebook. The other notes provide useful information on your notebook.

Safety notes

Pay attention to the information provided in the "Safety" manual and in the following security notes.

Observe the sections in the manual marked with the symbol on the left.

- When connecting and disconnecting cables, observe the relevant notes in this operating manual.
- When cleaning the device, please observe the relevant notes in the "Cleaning the notebook" paragraph.
- Only use batteries designed for this notebook.
  Do not store batteries for longer periods in the notebook.
  Take care not to drop the batteries or otherwise damage their casing (fire risk).
  If the rechargeable batteries are defective, they must not be used.
  Do not touch the contacts of the batteries.
  Never interconnect the positive and negative terminals of a battery.
  Used batteries must be disposed of in accordance with local regulations (special waste).
- If a lithium battery (button cell) is installed in the notebook for real-time buffering, please note that:
  The lithium battery may be replaced only by authorised personnel. Incorrect handling may lead to a risk of explosion.
  The lithium battery may be replaced only with an identical battery or with a type recommended by the manufacturer.
  The lithium battery must be disposed of in accordance with local regulations concerning special waste.
- All batteries containing pollutants are marked with one of the two symbols below (crossed-out garbage can).



In addition, the marking is provided with the chemical symbol of the heavy metal decisive for the classification as a pollutant.

Cd	Cadmium
Hg	Mercury
Pb	Lead

- Your notebook is equipped with numerous security functions that offer you a high level of security according to a multi-level concept. Detailed information can be found in "Security functions" chapter.
- If you have a device with a wireless LAN/ Bluetooth, also observe the information in the "Additional safety precautions for devices with wireless LAN/ Bluetooth" section.

This notebook complies with the relevant safety regulations for data processing equipment. If you have questions as to whether you can set up the notebook in the intended environment, please contact your sales point or our hotline/help desk.

Additional safety precautions for devices with wireless LAN/ Bluetooth

If a radio component (Wireless LAN or Bluetooth) is integrated in your notebook, you must be sure to observe the following safety precautions when using your notebook:

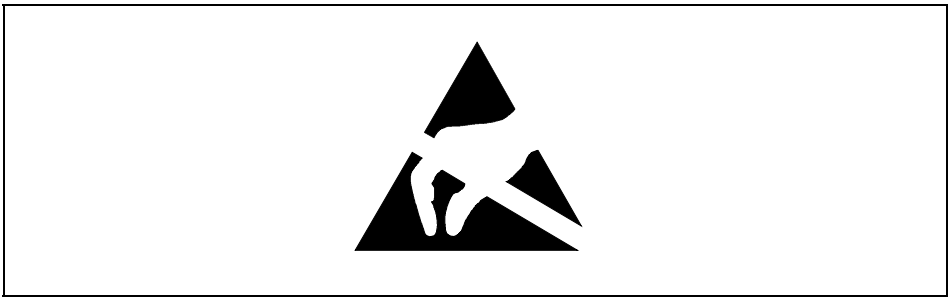
- The transmitted radio waves can cause an unpleasant humming in hearing aids.
- Switch off the notebook when you are in an aircraft or driving in a car.
- Switch off the radio component on the notebook (the On/Off switch must be in the "OFF" position) when you are in a hospital, an operating room or near a medical electronics system. The transmitted radio waves can impair the operation of the medical devices.
- Keep the notebook at least 20 cm from a pacemaker, as otherwise the proper operation of the pacemaker may be impaired by radio waves.
- Do not bring the notebook near flammable gases or into hazardous environments (e.g. paintshops) with the radio component switched on, as the transmitted radio waves can cause an explosion or a fire (the On/Off switch must be in the "OFF" position).
- The range of the radio connection is dependent on environmental and ambient conditions.
- With data traffic via a wireless connection, it is also possible for unauthorised third parties to receive data.

The company Fujitsu Siemens Computers GmbH cannot be held responsible for radio or television faults arising from unauthorised changes made to this device. Fujitsu Siemens Computers GmbH is, furthermore, not responsible for replacing and / or exchanging connector cables and devices which have not been specified by Fujitsu Siemens Computers GmbH. The user is solely responsible for repairing faults arising from such unauthorised changes made to a device and for replacing and/or exchanging devices.

Notes on installing and removing boards and modules

Only qualified technicians should repair the device. Unauthorised opening or incorrect repair may greatly endanger the user (electric shock, fire risk).

Boards with electrostatic sensitive devices (ESD) are identifiable by the label shown.



When you handle boards fitted with ESDs, you must, under all circumstances, observe the following points:

- You must statically discharge yourself before working with boards (e.g. by touching a grounded object).
- The equipment and tools you use must be free of static charges.
- Pull out the power connector and remove the battery before you install or remove boards.
- Always hold boards with ESDs by their edges.
- Never touch pins or conductors on boards fitted with ESDs.

Energy saving

If you will not be using your notebook, switch it off.

Make use of the device's energy saving functions (see "Working with the notebook"). The notebook uses less power when the power management features are enabled. You will then be able to work for longer before having to recharge the battery.

If a monitor with energy saving features is connected to your notebook, you can use the *Screen Saver* tab to activate the energy saving features of the monitor. Select the following item in the start menu: *Settings - Control Panel - Display - Display Properties - Screen Saver - Energy saving functions for the display*. You can set additional energy saving functions in the start menu by selecting the following item: *Settings - Control Panel - Energy - Extended*.

Storing the battery

Store the battery in a fully charged state. The battery should be stored in a dry area at a temperature between 0°C and +30°C. The lower the temperature at which the batteries are stored, the lower is the rate of self-discharge.

If storing for a long period of time (longer than two months) batteries should be fully charged before storage.

To be able to make use of the optimal charging capacity of the batteries, the battery should be completely discharged and then fully recharged.

If you do not use the batteries for long periods, remove them from the notebook. Never store the batteries in the unit.

Transporting the notebook

Please observe the points listed below when transporting your notebook.

Before you travel

- Back up important data stored on your hard disk.
- Switch off the radio component (Wireless LAN/ Bluetooth) for security reasons when youn cannot exclude that the transmitted radio waves can negatively affect electrical and electronic devices in your surrounding area.
- Disconnect the notebook from the Port Replicator.
- If you wish to use your notebook during a flight, first check with the flight attendants if it is permissible to do so.
- If you are travelling abroad, ensure that the power adapter can be operated with the local mains voltage. If this is not the case, obtain the appropriate power adapter for your notebook. Do not use any other voltage converter!

If you travel in another country, check whether the local power supply and the specifications of the power cable are compatible. If this is not the case, buy a power cable that matches the local conditions. Do not use a connection adapter for electrical devices to connect the notebook.

If you use a modem, incompatibilities with the local telecommunications system may result.

Transporting the notebook

- Remove all data carriers (e.g. CD) from the drives.
- Switch the notebook off with the Suspend/Resume button (see "Working with the notebook" chapter, "Switching off the notebook" section).
- Unplug the power adapter and all external devices from the mains outlet.
- Disconnect the power adapter cable and the data cables for all external devices.
- Close the connector covers.
- Close the LCD screen so that it locks into place.
- If the device needs to be shipped, use the original packaging or other suitable packaging to protect it from damage caused by mishandling.
- To protect against damaging jolts and bumps, use a notebook carrying case to transport your notebook.
  Fujitsu Siemens Computers offers a number of solutions for transporting your notebook. The current offering can be viewed on the Internet at *http://www.e-shop2.de*.
- Protect the notebook from severe shocks and extreme temperatures (e.g. direct sunlight in a car).

Cleaning the notebook

- ► Switch the notebook off.
- ► Pull the power plug of the network adapter out of the mains outlet.
- ► Remove the battery.

Do not clean any interior parts yourself; leave this job to a service technician.

Do not use any cleaning agents that contain abrasives or may corrode plastic. The use of improper cleaning agents can damage the markings on the keyboard and the notebook, the paintwork of the device or the device itself.

Ensure that no liquid enters the notebook.

Wipe the casing with a dry cloth.
If particularly dirty, use a cloth that has been moistened in mild domestic detergent and then carefully wrung out.

To clean the touchpad, you can use disinfectant wipes.

Wipe the LCD screen with a soft, moistened cloth.

Preparing the notebook for use

Observe the relevant notes in the "Important notes" chapter and in the manual about your radio component.

You must charge the battery and install the application programmes before you can work with the notebook. The operating system and drivers required are preinstalled.

When not plugged into a mains outlet, the notebook runs on its built-in battery. You can increase the battery's life by enabling the system's energy saving functions.

If you use the notebook in a normal office situation, run it from the mains using the power adapter.

Please see the "Connecting external devices" chapter for instructions on how to connect devices such as a mouse and a printer to the notebook.

Unpacking and checking the delivery

- ► Unpack all the individual parts.
- ► Check the delivery for damage incurred during transportation.
- ► Check whether the delivery agrees with the details in the inventory.

Should you discover that the delivery does not correspond to the inventory, notify your local sales outlet immediately.

Do not discard the original packing material of the devices. Keep the original packing material in case you need to ship the equipment again.

Selecting a location

Select a suitable location for the notebook before setting it up. Consider the following points when looking for a location:

- Do not place it on a soft surface (e.g., a carpet or soft furnishings). The space between the notebook's feet must be clear.

  Place the notebook on a stable, flat, nonslippery surface. In view of the multitude of different finishes used on furniture, it is possible that the rubber feet of the notebook will mark the surface they stand on.
- Never place the notebook and the power adapter on a heat-sensitive surface.
- The notebook and the power adapter should be at least 200 mm apart.
- Keep other objects 100 mm away from the notebook and its power adapter to ensure adequate ventilation.
- Never cover the fan intake or exhaust openings of the notebook or the power adapter.
- Do not expose the notebook to extreme environmental conditions.
  Protect the notebook from dust, humidity, and heat.

Connecting the power adapter

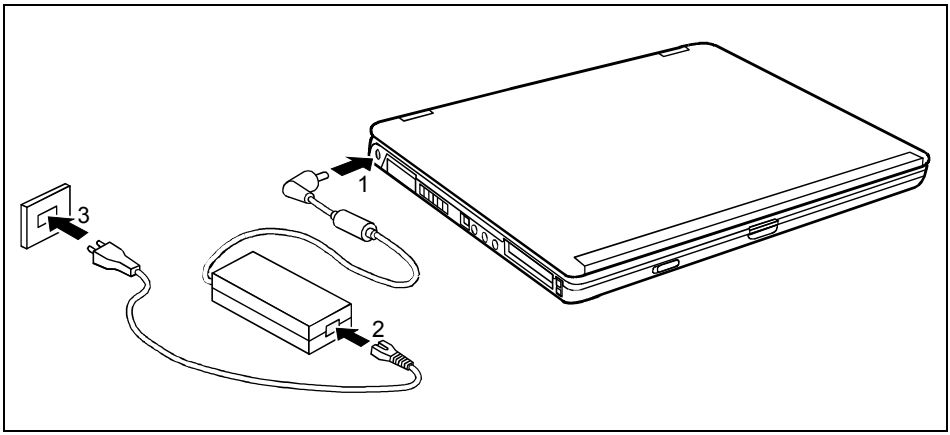
Please take note of the information in the section "Selecting a location".

The power cable supplied conforms to the requirements of the country in which you purchased your notebook. Make sure that the power cable is approved for use in the country in which you intend to use it.

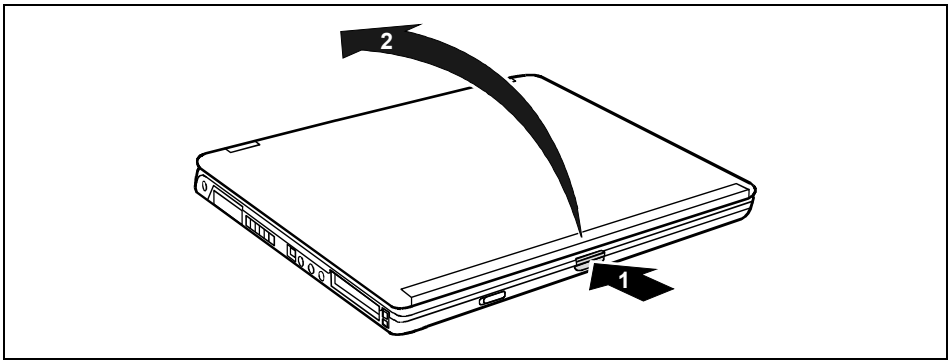
The power adapter's AC cord should only be connected to a mains outlet if the notebook is connected to the power adapter.

Do not use the power adapter for other notebooks or devices.

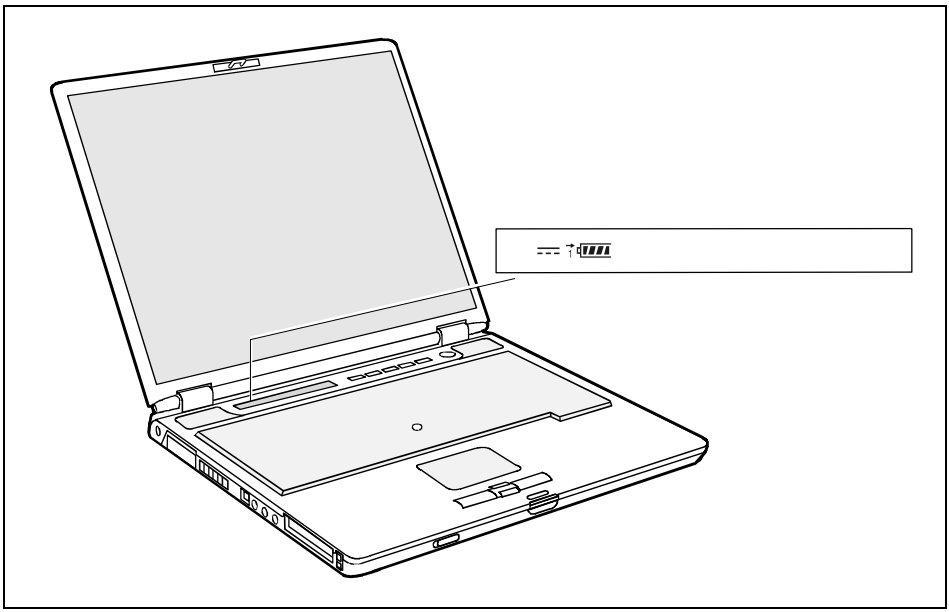
Do not use a power adapter that is not specially intended for this notebook.



- ► Connect the power adapter cable to the DC jack (DC IN) of the notebook (1).
- ► Connect the power cable to the power adapter (2).
- ► Plug the power cable into the mains supply (3).



- ► Press the release button (1), and unfold the LCD screen upwards (2).



The power indicator ⎓ of the notebook appears in the status indicator panel.

The battery will charge. The charging indicator ➔ and the battery indicator 1 appear in the status indicator panel.

i The meaning of the various displays can be found in the section "Indicators" in the "Working with the notebook" chapter.

Switching on the notebook for the first time

When you switch on your notebook for the first time, the supplied software is installed and configured. Due to the fact that this installation must not be interrupted, you should set aside enough time for it to be fully completed and connect the notebook to the mains outlet using the power adapter.

During installation, the notebook may only be rebooted when you are requested to do so!

► Switch the notebook on (see "Working with the notebook" chapter, "Switching on the notebook" section).

► During installation, follow the instructions on screen.

Consult the operating system manual if there is anything unclear about the requested input data.

If there is installed on your notebook a Windows operating system the "Drivers°&°Utilities" CD is included in the delivery scope. You will find further information on the system, drivers, utilities, updates, manuals etc. on this "Drivers & Utilities" CD.

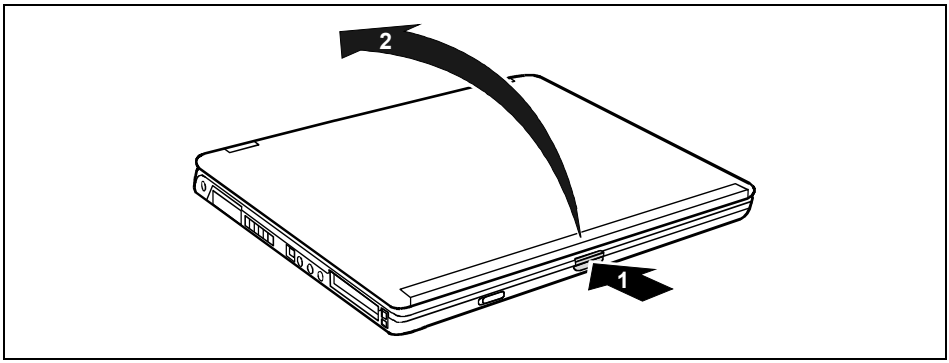
Working with the notebook

This chapter describes the basics for operating your notebook.

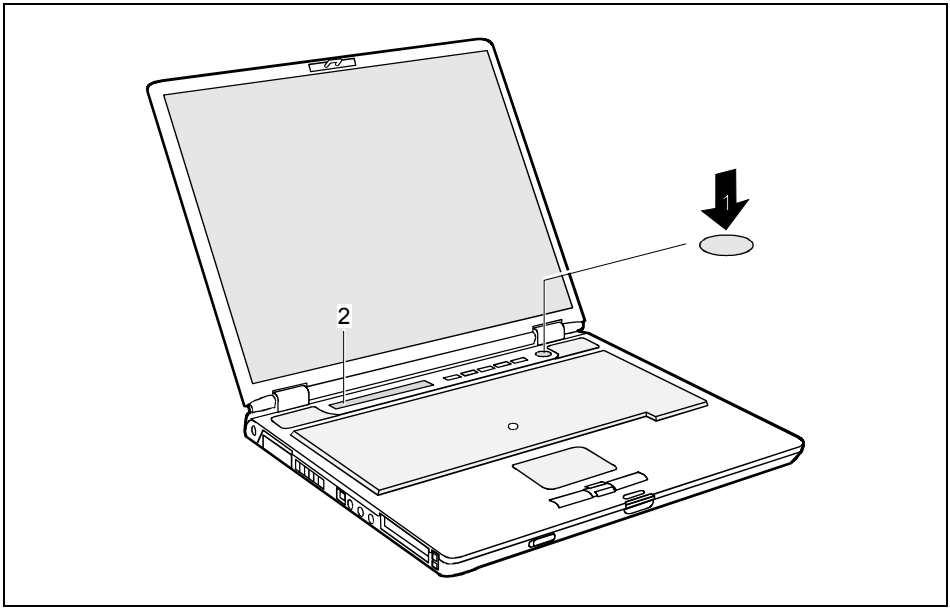
Please see the "Connecting external devices" chapter for instructions on how to connect devices such as a mouse and a printer to the notebook.

Please take note of the information in the "Important notes" chapter.

Switching on the notebook



► Press the release button (1), and unfold the LCD screen upwards (2).



► Press the Suspend/Resume button (1) to switch on the notebook.

The power-on indicator ⏻ of the notebook appears in the status indicator panel (2).

After switch-on a self-test (POST, Power On Self Test) is automatically carried out. Never switch the notebook off during the self-test.

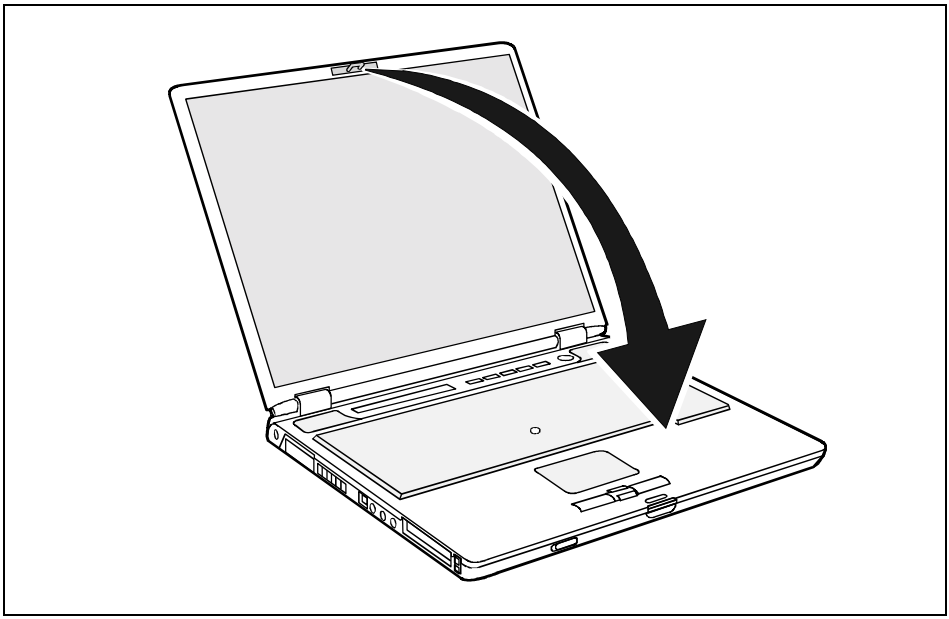
You can configure the Suspend/Resume button under *Start - Control Panel - Performance and Maintenance - Power Options - Advanced*.

If you have assigned a password, you must enter this when requested to do so, in order to start the operating system password. Detailed information can be found in "Security functions" chapter.

Switching off the notebook

► Close all programmes and shut down your operating system (please see operating system manual).

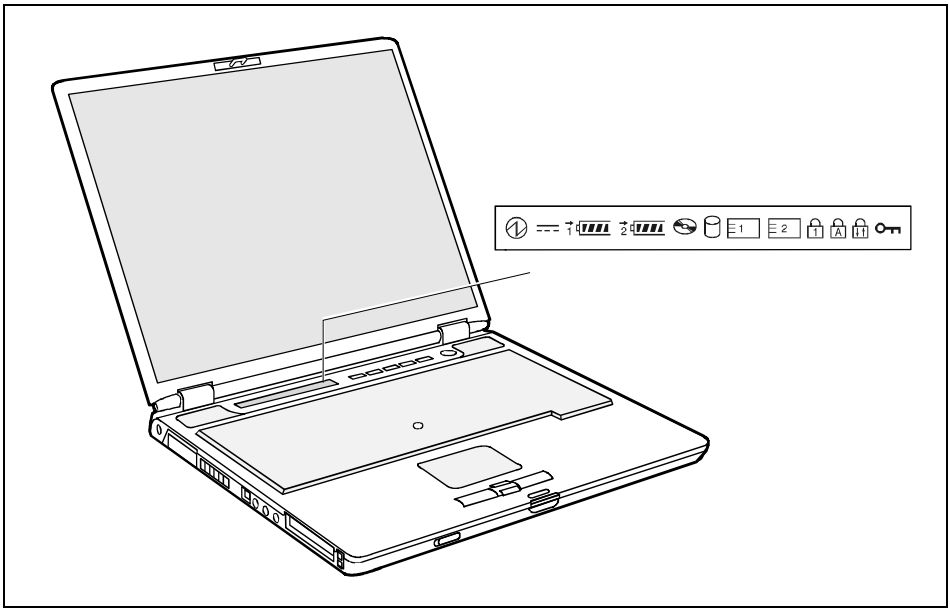
i If the notebook cannot be shut down properly, press the Suspend/Resume button for approx. four seconds. The notebook switches off. However, any data which have not been saved may be lost.



► Close the LCD screen so that it locks into place.

Indicators

The status indicator panel is a small LCD panel on which various symbols appear. These symbols provide information about the status of the power supply, the drives, and the keyboard functions.



Power-on indicator

Power indicator

Battery charging indicator

First battery indicator

Second battery indicator

CD/DVD indicator

Hard disk indicator

PC card indicators

Num Lock indicator

Caps Lock indicator

Scroll indicator (Scroll Lock)

Security Panel indicator

The meaning of the symbols are as follows:

Power-on indicator

- The indicator lights up: The notebook is on.
- The indicator flashes (1 second on / 1 second off): The notebook is in energy-saving mode.
- The display is not shown: the notebook is switched off.

Power indicator

The power adapter is supplying power to the notebook.

Battery charging indicator

- The indicator lights up: The battery is charging.
- The indicator blinks: The battery is too hot or too cold for charging.

Battery indicators

The charging state of the batteries is shown with the two battery indicators. 1 indicates that the information applies to the first battery in the battery compartment. 2 indicates that the information applies to the second battery in the module bay.

 indicates that the battery is 0%-25% charged.

 indicates that the battery is 25%-50% charged

 indicates that the battery is 50%-75% charged.

 indicates that the battery is 75%-100% charged.

CD/DVD indicator

- The indicator is lit: The CD/DVD in the optical drive is being accessed. You may only remove the CD/DVD when the indicator is dark.
- The indicator flashes: an CD/DVD is being inserted or removed.

Hard disk indicator

The hard disk drive of the notebook is being accessed.

PC card indicators

The system accesses a PC Card.

Num Lock indicator

The **Num Lock** key has been pressed. The virtual numeric keypad is activated. You can output the characters located at the upper right on the keys.

Caps Lock indicator

The Caps Lock key has been pressed. All the characters you type appear in uppercase. In the case of overlay keys, the character printed on the upper left of the key appears when that key is pressed.

Scroll indicator (Scroll Lock)

The key combination **Fn** + **Scr** has been pressed. The effect this key has varies from programme to programme.

Security Panel indicator

The security panel is active. Supervisor and user passwords are set.

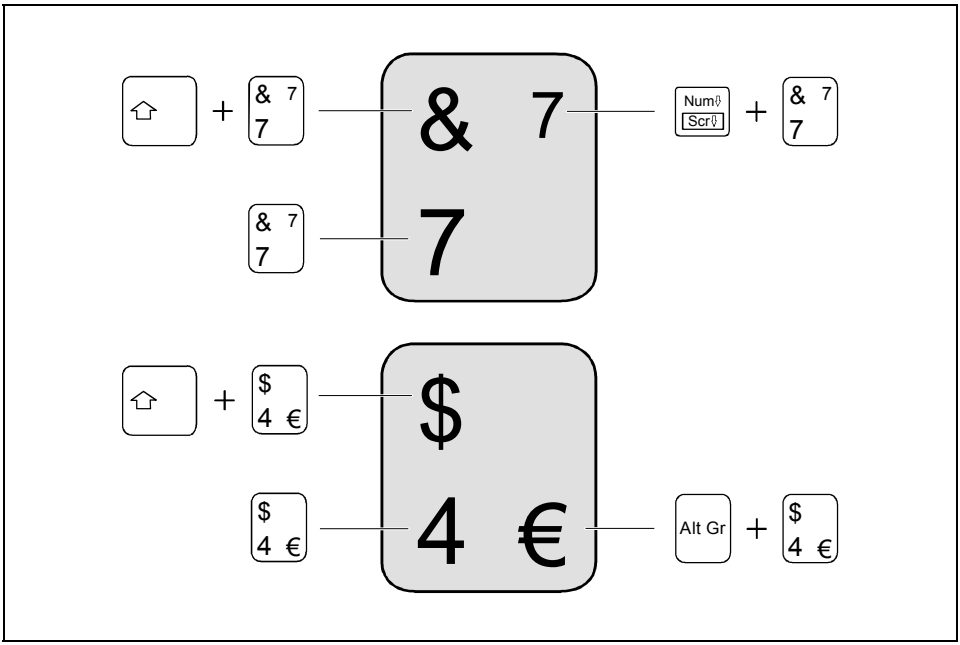
You will find the information on the security panel in "Security functions" chapter.

Keyboard

The keyboard of your notebook is subject to continuous wear due to normal use. The keyboard markings are subjected to particularly high loads. The keyboard markings can wear off in the course of using the notebook.

The keyboard has been designed to provide all the functions of an enhanced keyboard. Some enhanced keyboard functions are mapped with key combinations.

The following description of keys and key combinations refers to Windows.



Backspace key

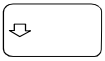
The Backspace key deletes the character to the left of the cursor.

Tab key

The Tab key moves the cursor to the next tab stop.

Enter key (return)

The enter key terminates a command line. The command you have entered is executed when you press this key.



Caps Lock key

The Caps Lock key activates uppercase mode (CapsLK indicator lit). The Caps Lock function causes all the characters you type to appear in uppercase. In the case of overlay keys, the character printed on the upper left of the key appears when that key is pressed.
To cancel the Caps Lock function, simply press the Caps Lock key again.

Shift key

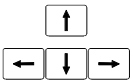
The Shift key causes uppercase characters to appear. In the case of overlay keys, the character printed on the upper left of the key appears when that key is pressed.

Alt Gr key

The **Alt Gr** key allows one to type the characters printed on the lower right of the keycaps (e.g. { in the case of the 7 key on the German keyboard).

Fn key

The **Fn** key enables the special functions indicated on overlay keys (see "Key combinations" section).



Cursor keys

The cursor keys move the cursor in the direction of the arrow, i.e. up, down, left, or right.

Pause key

The **Pause** key temporarily suspends display output. Output will resume when you press any other key.

Start key

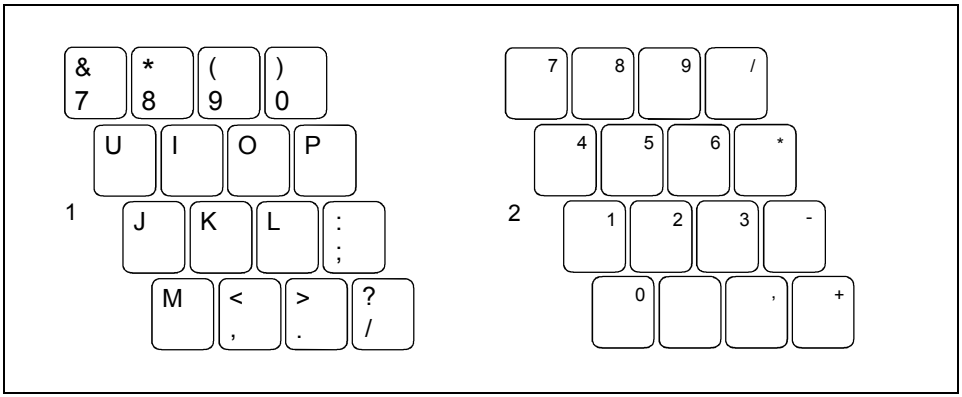
The Start key invokes the Windows Start menu.

Menu key

The Menu key invokes the menu for the marked item.

Virtual numeric keypad

The keyboard of your notebook does not have a separate number block. To provide the convenience of a numeric keypad, your keyboard is equipped with a virtual numeric keypad. The special keys of the virtual numeric keypad are recognisable by the numbers and symbols printed in the upper right corner of each key. If you have switched on the virtual numeric keypad, you can output the characters shown on the upper right of the keys.



1 = Characters enabled when Num Lock indicator is not lit (see "Indicators" section).
2 = Characters enabled when Num Lock indicator is lit (see "Indicators" section).

Key combinations

The following description of key combinations refers to functions when using Microsoft Windows. Some of the following key combinations may not function in other operating systems and with some device drivers.

Key combinations are performed as follows:

► Press and hold the first key in the combination.

► While holding the first key down, press the other key or keys in the combination.

Fn + F3

Switching the loudspeakers on/off

This key combination switches your device's integrated loudspeakers off and on. Each time the loudspeaker switches on you will hear an acoustic signal.

Fn + F5

Enlarge MS-DOS screen

This key combination enlarges the screen in the MS-DOS mode to the full-screen mode or switches it back to the normal display mode.

Fn + F6

Decreasing screen brightness

This key combination decreases screen brightness.

Fn + F7

Increasing screen brightness

This key combination increases screen brightness.

Fn + F8

Reducing the volume

This key combination reduces the volume of the integrated loudspeakers.

Fn + F9

Increasing the volume

This key combination raises the volume of the integrated loudspeakers.

Fn + F10

Switching between internal and external screen

If an external monitor is connected, the monitor on which the output is to be displayed can be selected with this key combination.

You can opt to use:

- just the notebook's LCD screen
- just the external monitor
- both the LCD screen and the external monitor.

Ctrl + C

Halting the current operation

This key combination can be used to halt an operation instantly without clearing the keyboard buffer.

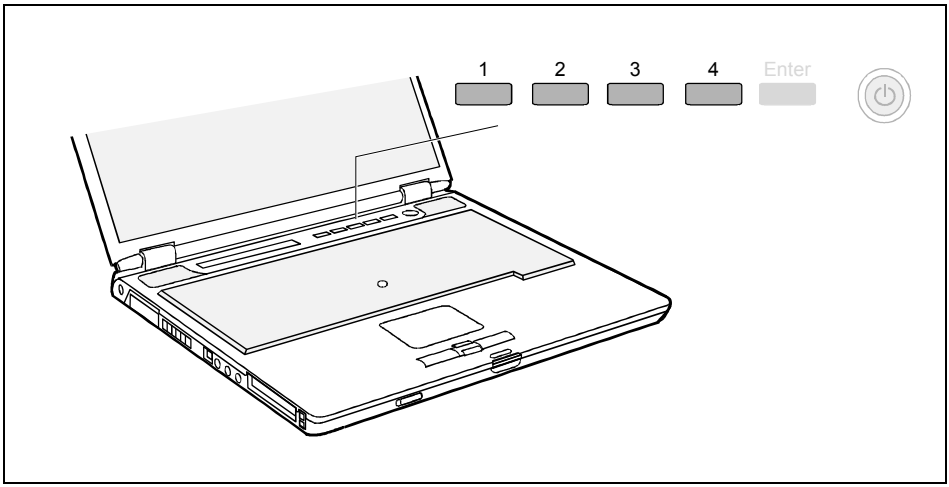
⇧ + ⇤

Backtab (Shift+Tab)

This key combination moves the cursor back to the previous tabular stop.

Easy Launch keys

Your notebook is equipped with four configurable Easy Launch keys.



1 = Key 1
This key could be preset. However, you can also configure this key as desired.

2 = Key 2
This key could be preset. However, you can also configure this key as desired.

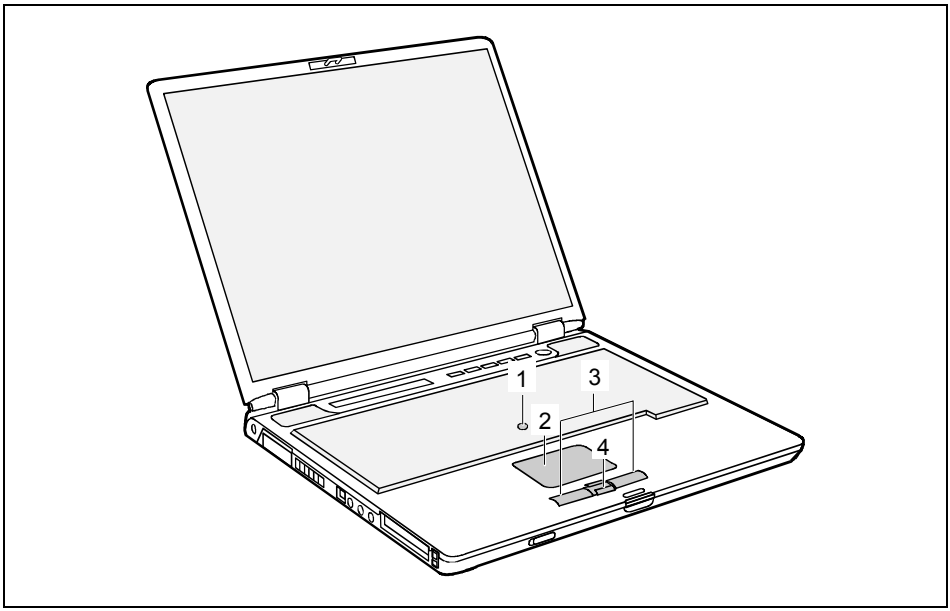
3 = Key 3 (preset as Internet key)
With this key you can start the standard internet browser for your system. However, you can also configure this key as desired.

4 = Key 4 (preset as E-mail key)
Use this key to start the standard e-mail programme for your system. However, you can also configure this key as desired.

Configuring Easy Launch keys

With the *Application Panel* you can assign various functions to the Easy Launch keys. You will find the *Application Panel* under *Start - Control Panel - Additional Control Panel Options - Application Panel*.

Touchpad / TouchStick and touchpad buttons



1 = TouchStick
2 = Touchpad
3 = Touchpad buttons
4 = Touchpad scroll button

Your notebook offers a Touchpad (and as an option also a TouchStick) for mouse control.

You can move the pointer on the screen with the TouchStick (1) or the Touchpad (2). The touchpad buttons (3) allow the selection and execution of commands. They correspond to the buttons on a conventional mouse.

Keep the touchpad clean, protect it from dirt, liquids, and grease.

Do not use the touchpad if your fingers are dirty.

Do not rest heavy objects (e.g. books) on the touchpad or the touchpad buttons.

Moving the pointer

► Move your finger on the touchpad.

or

► Press down gently with your finger on the TouchStick.
If you want to move the pointer to the left for example, press down gently on the left side of the TouchStick.

The pointer will move accordingly.

Selecting an item

► Move the pointer to the item you wish to select.

► Tap the touchpad once or press the left button once.

The item will be selected.

Executing a command

► Move the pointer to the field you wish to select.

► Tap the touchpad twice or press the left button twice.

The command will be executed.

Dragging an object

► Move the pointer to the item you wish to select.

► Select the desired object and hold down on the left button.

► Drag the object to the desired position.

► Lift your finger from the touchpad.

or

► Lift your finger from the TouchStick.

The item will be moved.

Scrolling up

► Press the upper side of the touchpad scroll button to scroll up.

The information/texts above the display area appear.

Scrolling down

► Press the lower side of the touchpad scroll button to scroll down.

The information/texts below the display area appear.

LCD screen

Information on LCD monitor

High-quality TFT displays are installed in notebooks from Fujitsu Siemens Computers GmbH. The specification of the monitor resolution indicates how many pixels can be displayed. For example, "XGA" stands for 1024 x 768 pixels. Each pixel consists of three so-called subpixels of the colours red, green and blue. As a result, an XGA monitor consists of 1024 x 768 x 3 = 2,359,296 subpixels.

The standard of production techniques today cannot guarantee an absolutely fault-free monitor. A few isolated constant lit or unlit pixels may be present. To ensure the highest possible quality, Fujitsu Siemens Computers uses only monitors that at least comply with the standard DIN ISO 13406-2 (Class II).

TFT monitors are operated with background lighting. The luminosity of the background lighting can decrease during the period of use of the notebook. The brightness of your monitor can be set individually with the brightness control keys of the keyboard.

Monitor settings

Setting resolution (under Windows)

You can change the screen resolution under *Start - Settings- Control Panel - Display - Settings* and then selecting from the *Resolution* field.

Setting font size (under Windows)

Under *Start - Settings - Control Panel - Display - Settings* you can choose between a larger and a smaller font in the *Font size* field.

Setting the display brightness

You can adjust the brightness of your LCD screen with the keys **Fn** + **F6** or **Fn** + **F7**: With **Fn** + **F6**, screen brightness will be reduced and with **Fn** + **F7** increased.

Synchronising the display on the LCD screen and an external monitor

Your notebook supports the simultaneous display on the LCD screen and an external monitor. If the picture does not appear correctly on the LCD monitor, press the key combination **Fn** + **F10** several times, or switch the external monitor off and then on again. This achieves good picture synchronisation.

Adjusting the speed of the mouse pointer

You can change the speed of the mouse pointer under *Start - Settings - Control Panel - Mouse* and clicking on the *Motion* tab.

Battery

The battery supplies your notebook with the necessary power during mobile use. You can increase battery life by enabling the system's power management features.

The battery charge is indicated by the battery symbol in the status indicator panel (see also section "Indicators") When you switch on the notebook, it takes a few seconds before the battery status is displayed.

The standard battery will last for roughly 500 charge/discharge cycles, this will vary according to which battery pack is fitted.

Charging, caring for and maintaining the battery

Only use batteries released for your notebook.

Take care not to drop the batteries or otherwise damage their casing (fire risk).

If the rechargeable batteries are defective, they must not be used.

Do not touch the contacts of the batteries.

Never interconnect the positive and negative terminals of a battery.

Used batteries must be disposed of in accordance with local regulations (special waste).

Observe the information on battery storage in the "Important notes" chapter.

Information on the battery charging time is contained in the "Technical data" chapter.

You can charge the battery by connecting the notebook to the power adapter.

The battery can only be charged when the ambient temperature is between 5°C and max. 40°C.

Work in the battery mode until an acoustic warning or a message on the screen prompts you to recharge and the battery indicator in the status indicator panel begins to flash. The battery should not be charged before this point.

If you do not connect the power adapter within five minutes of the signals described above, your notebook will automatically switch to the energy-saving mode or off.

Storing the battery

Store the battery in a fully charged state. Keep the battery pack between 0°C and +30°C (32 and 122 degrees Fahrenheit). The lower the temperature at which the batteries are stored, the lower is the rate of self-discharge.

If storing for a long period of time (longer than two months) batteries should be fully charged before storage.

To be able to make use of the optimal charging capacity of the batteries, the battery should be completely discharged and then fully recharged.

If you do not use the batteries for long periods, remove them from the notebook. Never store the batteries in the unit.

Monitoring the battery charging level

The battery charge is indicated by the battery symbol in the status indicator panel (see the section "Indicators").

Power management includes a "battery charge meter" located in the task bar. When you place the mouse pointer on the battery symbol, the system displays the battery status.

Removing and installing the battery

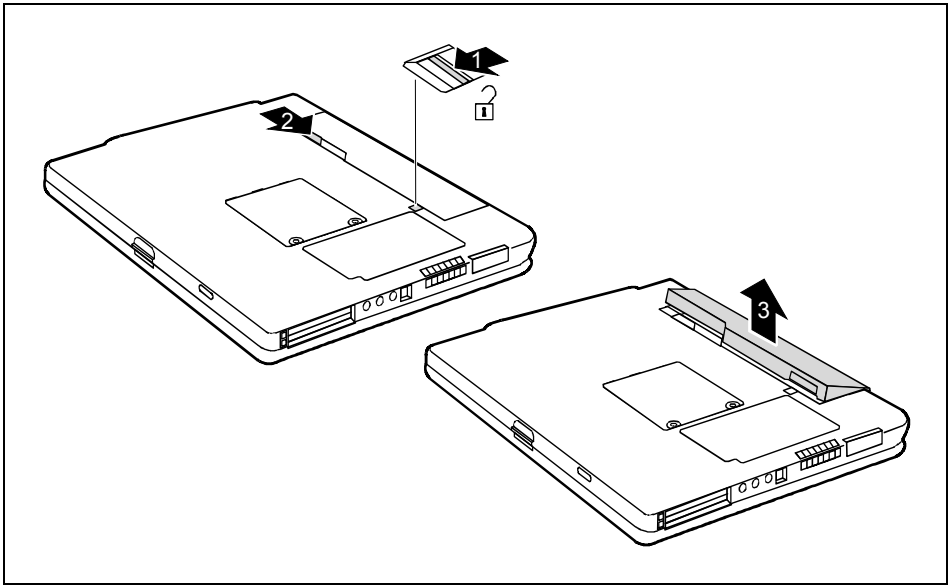
Only use batteries released for this notebook.

Never use force when inserting or removing a battery.

Make sure that foreign objects do not fall into the battery compartment.

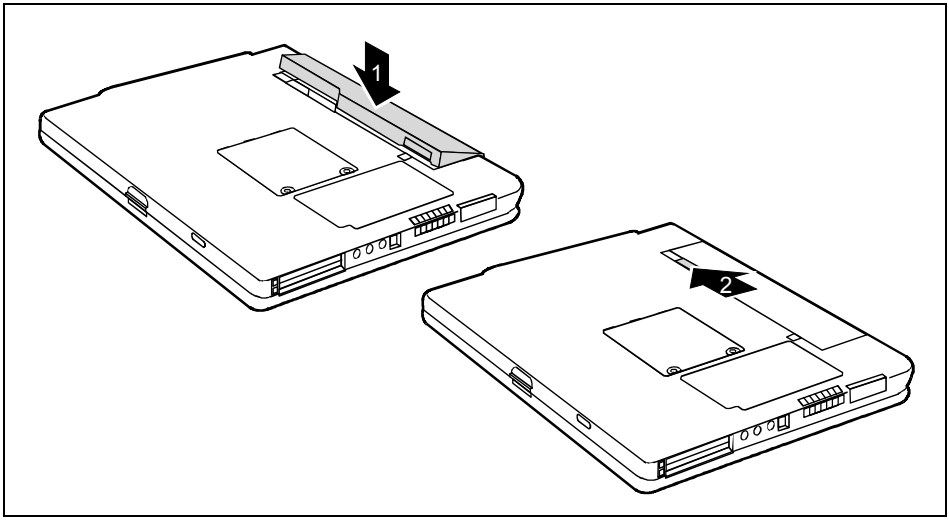
- ► Switch the notebook off.
- ► Place the notebook on a flat surface.
- ► Close the LCD screen.
- ► Turn the notebook over.

Removing battery



- ► Press the release (1) in the direction of the arrow and hold it pressed.
- ► Push the battery lock in the direction of the arrow up to the stop (2).
- ► Remove the battery from the battery compartment (3).

Inserting battery



- ► Position the battery at the edge of the casing.
- ► Push the battery into the battery slot until you feel it locking into place (1).
- ► Push the battery lock in the direction of the arrow up to the stop (2).

Hard disk

The hard disk is the most important storage medium of your notebook. You can work considerably faster and more efficiently if you copy applications and files from CDs to your hard disk.

When the hard disk is accessed, the hard disk indicator lights up in the status indicator panel.

Module

The design of your notebook enables the flexible use of notebook batteries and drives. The following modules can be operated in the module slot of your notebook:

- Hard disk drive
- DVD-ROM drive
- Combo drive (CD-RW/DVD)
- DVD+RW drive
- Second battery
- Weight Saver

Only use modules designed for your notebook.

Do not use force when installing or removing the module.

Make sure that no foreign objects enter the module bay.

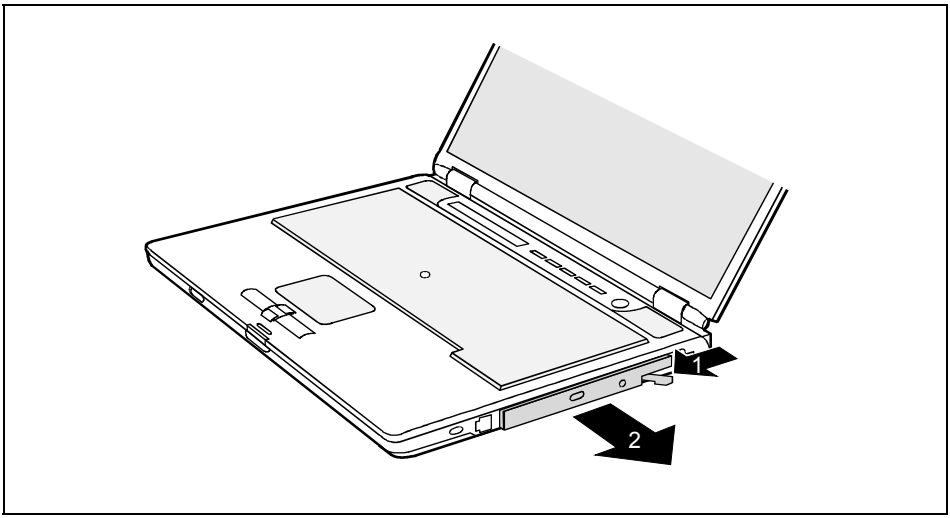
You can replace modules during operation. This means you do not need to switch off the notebook.

To replace a module, simply click on the corresponding icon in the taskbar and then on *Exit* or *Select* - *Exit*.

Then you can simply remove the module.

Removing module

► Place the notebook on a flat surface.

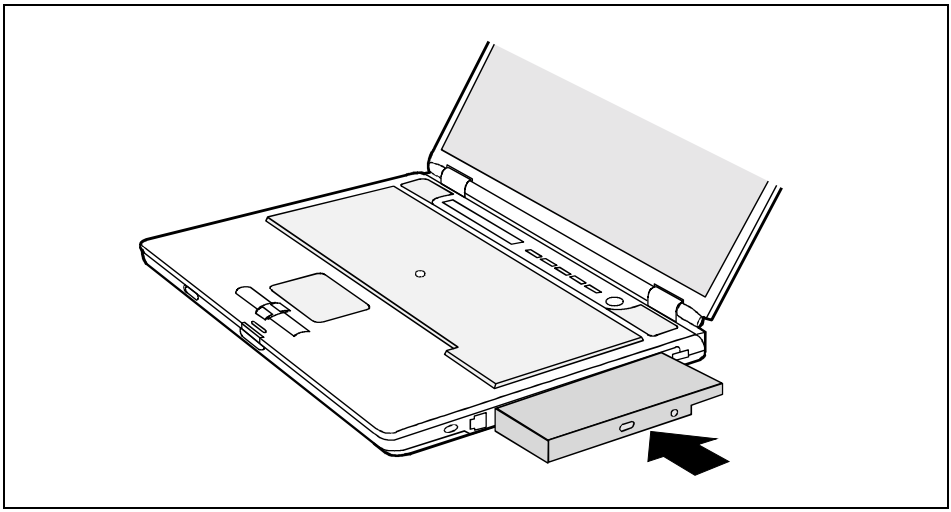


► Pull the eject lever (1) in the direction of the arrow up to the stop.

The module now extends somewhat beyond the casing.

► Pull the module (2) out of the module bay.

Installing module



► Place the module into the module bay so that the contacts enter first.

► Push the module into the module bay until you feel it locking into place.

Optical drive

Depending on the version, your notebook is equipped with a DVD-ROM drive, a combination drive (CD-RW/DVD) or a DVD+RW drive.

You can replace your optical drive with another drive, a battery or a "Weight Saver" (see "Module" section).

This device contains a light-emitting diode, classified according to IEC 825-1:1993: LASER CLASS 1, and must not be opened.

Handling CD/DVDs

Observe the following when handling CD/DVDs:

- Avoid touching the surface of a CD/DVD. Handle CDs/DVDs only by their edges!
- Always store CDs/DVDs in their cases. Thus you avoid dust contamination, scratches, bending or other damage.
- Protect your CDs/DVDs from dust, mechanical vibration and direct sunlight!
- Avoid storing a CD/DVD in areas subject to high temperatures or humidity.

You may use both 8-cm and 12-cm CDs/DVDs in the combo drive.

When using CDs/DVDs of poor quality vibrations and reading errors may occur.

CD/DVD indicator

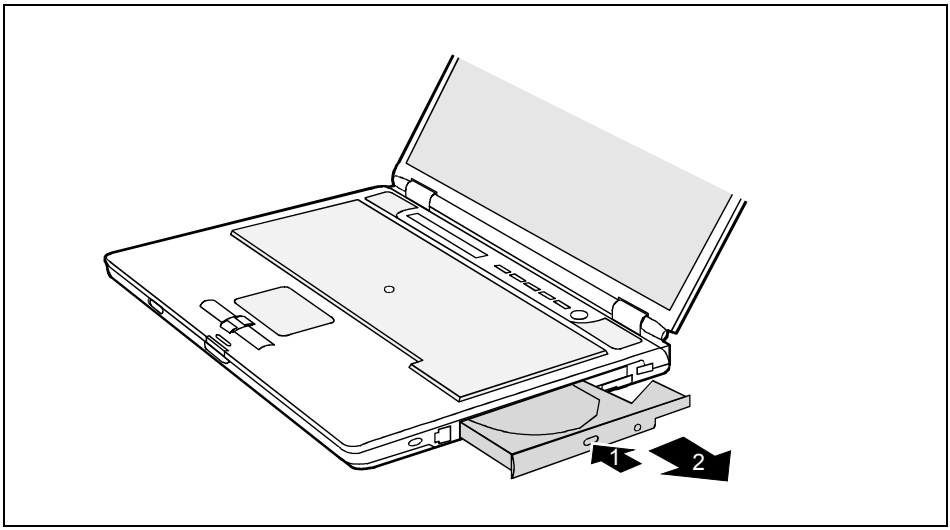
The CD/DVD indicator flashes when a CD/DVD is inserted. The indicator goes out when the drive is ready for reading. The indicator lights up when the drive is being accessed. You may only remove the CD/DVD when the indicator is dark.

If the CD/DVD indicator does not go out after inserting a CD/DVD, but instead continues to flash, the drive cannot access the data carrier.

Either the CD/DVD is damaged or dirty or you are using a data carrier that the drive cannot read.

Inserting or removing a CD/DVD

The notebook must be switched on.

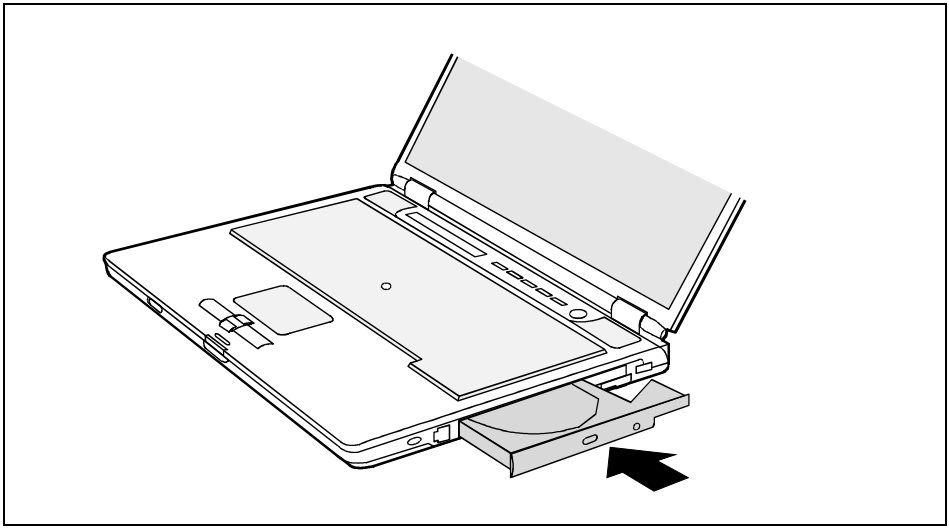


► Push the insert/eject button (1).

The drive tray will open.

► Pull the drive tray all the way out (2).

► Place the CD/DVD in the drive tray with the label facing upwards or remove an inserted CD/DVD.

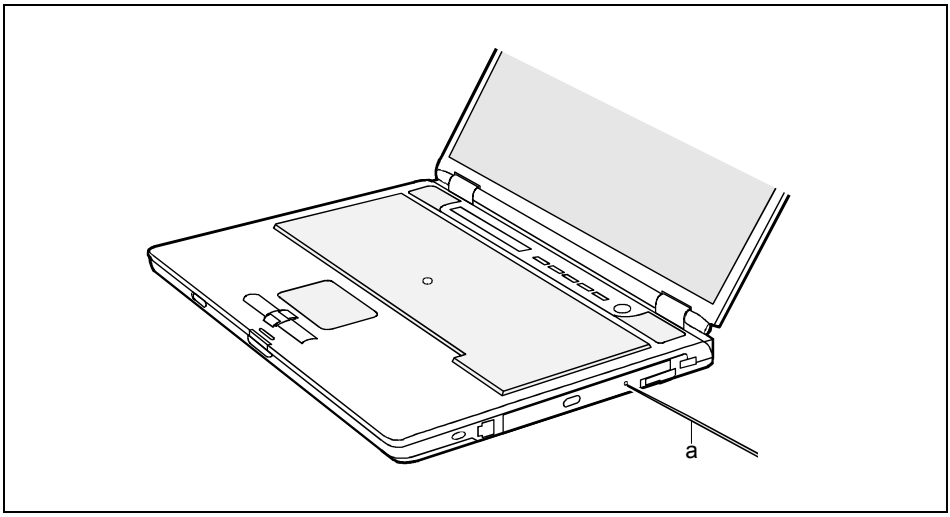


► Push in the drive tray until you feel it lock into place.

Manual removal (emergency removal)

In the event of a power failure or damage to the drive it may be necessary to manually remove the CD/DVD.

► Switch the notebook off.



► Press a pen or a piece of wire (e.g. a paperclip) firmly into the opening°(a).

The drive tray is unlocked and opens. You can now pull out the drive tray completely.

PC cards

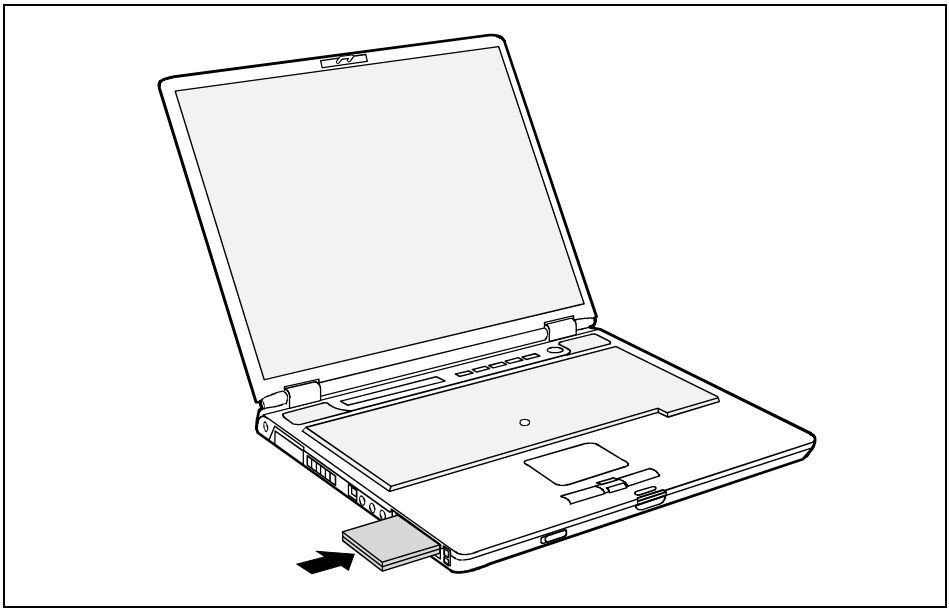
Two PC card slots (CardBus or PCMCIA) enable the notebook to operate two type I or type II PC cards or one type III PC card.

Consult the documentation supplied by the PC card's manufacturer and follow the instructions provided.

Never use force when inserting or removing a PC card.

Make sure that foreign objects do not fall into the PC card slot.

Installing a PC card



► Insert the PC card, contacts first, into the slot guide.

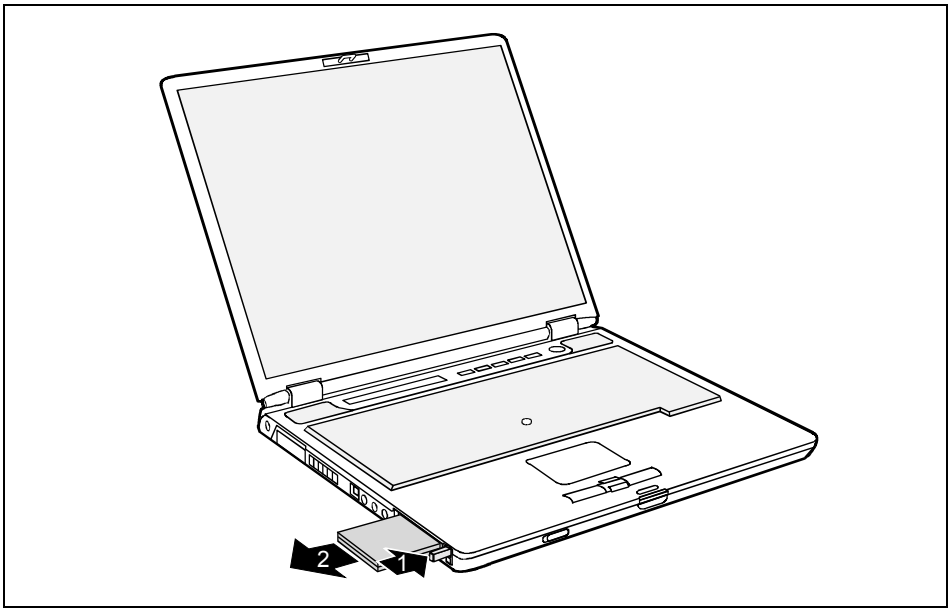
► Gently push the PC card into the slot until you feel it click into place.

Consult the documentation supplied with the PC card for information on how to install the necessary device drivers.

Also observe the corresponding information files (e.g. **.TXT*, **.DOC*, **.WRI*, **.HLP* or **.PDF*) on the driver CD and in the user manual of the operating system.

You can push the PC card slot eject button into the notebook casing. Press the eject button until it snaps in. This prevents the PC card from being ejected accidentally.

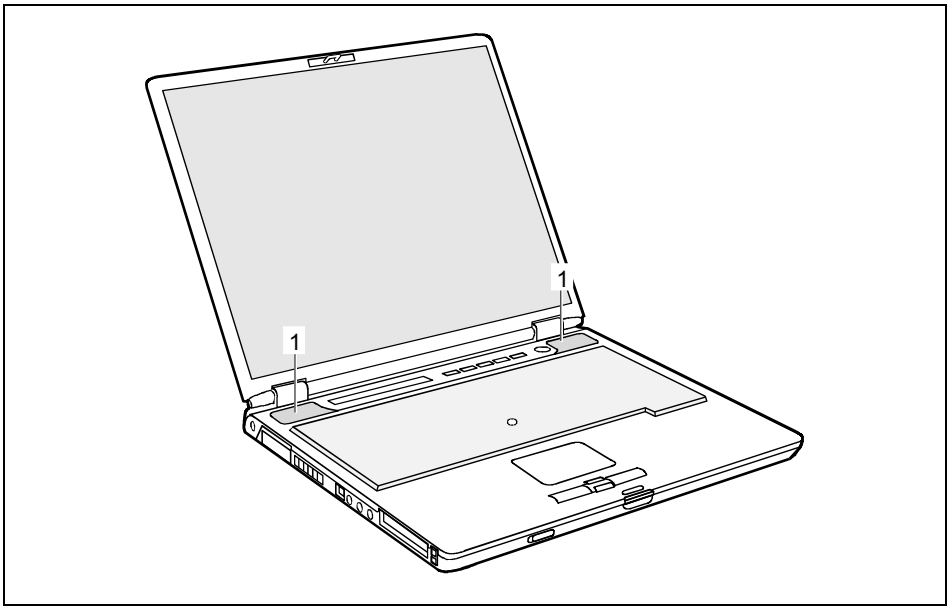
Removing a PC card



► Press the eject button (1). The PC card will project further out of the notebook's case. If the eject button is lowered, you must first cause the eject button to release from the notebook casing. Press the eject button until it snaps out.

► Pull the PC card (2) out of the slot.

Loudspeakers



1 = built-in loudspeakers

Two loudspeakers (1) are installed in your notebook.

The internal loudspeakers switch off when you attach headphones or external loudspeakers to the audio jack.

Integrated 56k modem

The integrated 56k modem supports all data communication applications, such as:

- Modem operation: High-speed downloads at up to 56,000 bit/s (V.9x). Downward-compatible to V.34 modems.
- Fax mode: Transmitting and receiving at up to 14,400 bit/s
- Simple country adaptation with programme

The modem complies with the EU Directive 91/263/EEC (Telecommunications terminal equipment directive) and has been checked in agreement with the guideline TBR-21.

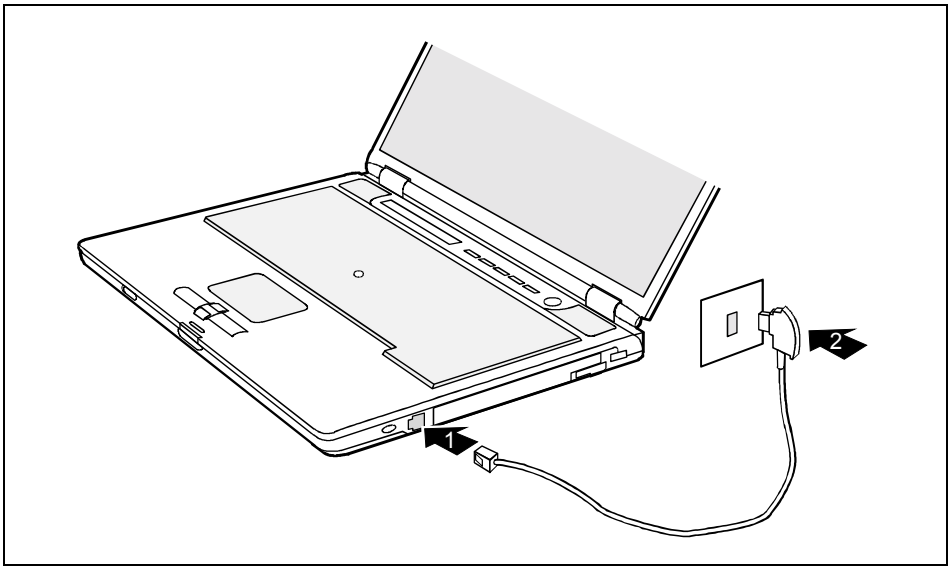
The modem can be operated in the following countries:

Multifrequency (MFC) dialling:
Belgium, Denmark, Germany, Finland, France, Greece, Great Britain, Holland, Ireland, Iceland, Italy, Luxembourg, Norway, Austria, Portugal, Sweden, Switzerland and Spain.

Pulse dialling:
Belgium, France, Holland and Italy.

Also in: Poland, Slovenia, South Africa and Hungary.

Connecting notebook modem to telephone connection



- ► Connect the modem cable supplied to the country-specific telephone adapter if necessary.
- ► Connect the modem cable to the modem port of the notebook (1).
- ► Connect the modem cable to your telephone wall socket (2).

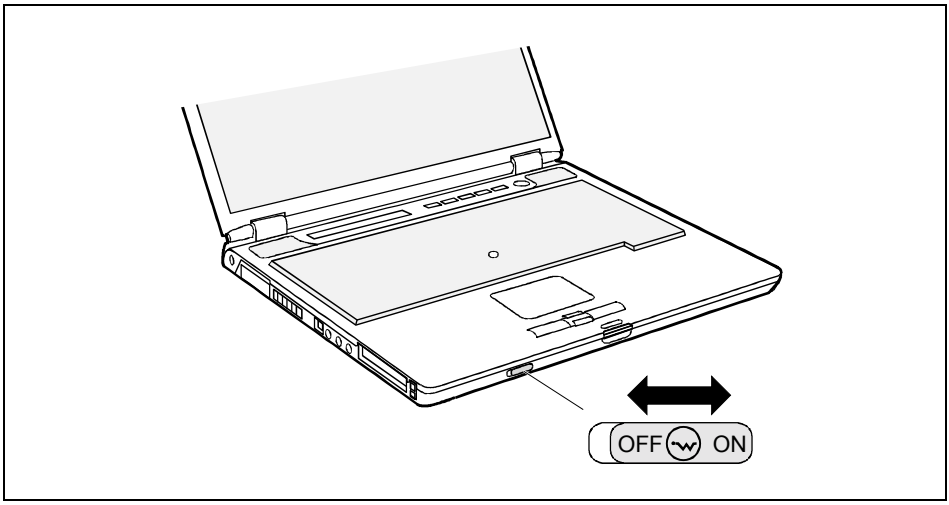
i

If you attach your modem on a TAE-N-connector the phone respectively data cable is busy. The cable cannot be used for other communication devices at the same time. Pull the modem plug out of the TAE-N-power socket after the data transfer, because also with connected cable no other communication devices can be used.

Wireless LAN/ Bluetooth

Depending on the device variant, wireless LAN/ Bluetooth may be integrated in your notebook. The wireless LAN/ Bluetooth module is switched off in the delivered state.

Switching wireless LAN/ Bluetooth module on and off



► Slide the ON/OFF switch into the "ON" position to activate the wireless LAN/ Bluetooth module.

or

► Slide the ON/OFF switch into the "OFF" position to deactivate the wireless LAN/ Bluetooth module.

i Details are contained in the online help for your wireless LAN software and in the "Wireless LAN" manual. The "Wireless LAN" manual can be found on the "Drivers & Utilities" CD.

Ad hoc mode

A wireless LAN in the ad hoc mode, also called peer-to-peer mode, consists of a single closed cell. Ad hoc wireless networks result when a workgroup comes together with its systems and would like to interconnect these for data exchange. Any number of systems can be added to this type of network and can leave it again.

So that several ad hoc wireless networks do not interfere with each other in radio traffic, there is a unique network name, the SSID (Service Set Identifier). The SSID is used for addressing so that a data packet can always be assigned to a certain cell.

If you want to join an existing cell, you require the network name (SSID), which you enter in the settings for the network card. The driver searches for a wireless network with this identifier during start-up. When the network card has found a wireless network, it connects to it and you can communicate with the systems in this wireless network. If two cells are very closed to each other, the channels of these networks should lie 4 to 5 channels apart to avoid malfunctions.

Infrastructure mode

In the infrastructure mode, a base station, referred to as an access point, exists in addition to the mobile stations. In the infrastructure mode the access point assumes the function of a "guard". In contrast to the adhoc mode, each system must log on to the AccessPoint before it is allowed to exchange data in the cell.

Another task of the access point is the connection of the cells with a cable-connected Ethernet. As due to the logon requirement, the access point knows at all times exactly which stations are on the radio side, it can decide exactly which data must be sent to it and which don't. This process is also referred to as bridging.

The range of a wireless network can be increased with several AccessPoints. The AccessPoints have the same SSID for this purpose. When a system enters the wireless network, it searches among the reachable access points for the one with the strongest signal and logs on there. Two systems logged on to different AccessPoints communicate with each other in this way, even when they are not within direct radio reach. If a system also continuously monitors the radio situation after the logon, it can detect how the signals from an access point become weaker and those of another become stronger, and can then log on to the stronger one without the user noticing. This procedure is referred to as roaming.

Port Replicator

The Port Replicator (also available as an accessory) is a docking device with which you can quickly connect your notebook to your peripheral devices. Among other things, the Port Replicator is equipped with the standard ports for serial data transmission, printer, monitor, audio, mouse and keyboard.

Additional information on the Port Replicator and on the various external devices that can be connected to it is contained in the in the chapter entitled "Connecting external devices".

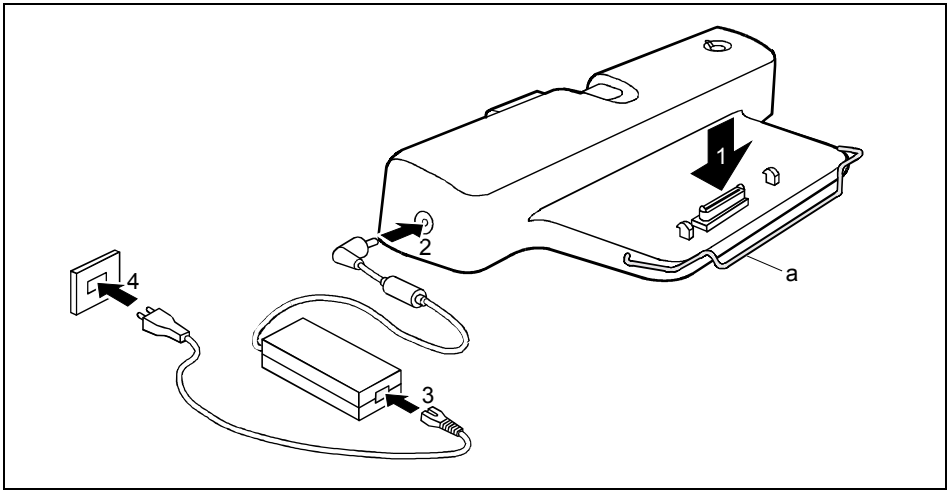
Connecting the notebook to the Port Replicator

It is not permissible to connect the notebook to the Port Replicator during operation.

When the notebook is connected to the Port Replicator, you should **not** connect the power adapter to the notebook, but instead to the Port Replicator.

When the notebook is connected to the Port Replicator, the audio connections on the notebook are deactivated: Line In socket, microphone jack and headphone port.

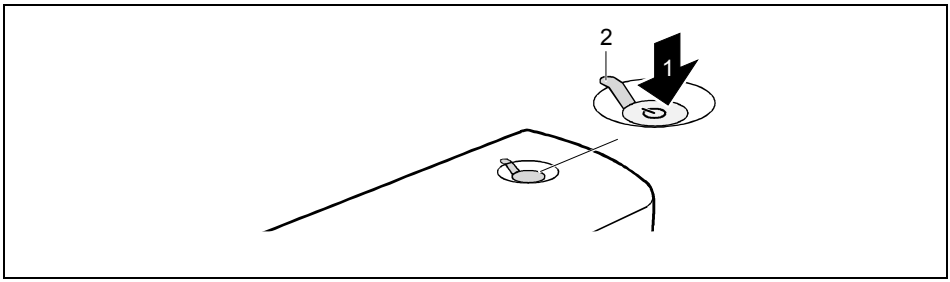
- ► Switch the notebook off.
- ► Unplug the power adapter from the mains outlet.
- ► Pull the power adapter cable out of the DC socket (DC IN) of the notebook.



- ► Make sure that the hoop (a) is in the position illustrated.
- ► Align the docking connectors as shown (1).
- ► Press down on the notebook's rear corners so that it may lock into position.
- ► Connect the power adapter cable to the DC jack (DC IN) of the Port Replicator (2).
- ► Connect the power cable to the power adapter (3).
- ► Plug the power cable into the mains outlet (4).

If the notebook is connected to a Port Replicator, the operating system creates an hardware profile for the "Docked" mode. In this profile, for example, the setting is saved as to which monitor was last used for output. This profile will be loaded, as soon as the notebook is connected to any desired Port Replicator.

Switching on notebook via Port Replicator



► Press the Suspend/Resume button (1) of the Port Replicator.

The power-on indicator (2) of the Port Replicator lights up.

After switch-on a self-test (POST, Power On Self Test) is automatically carried out. Never switch the notebook off during the self-test.

Switching off notebook via Port Replicator

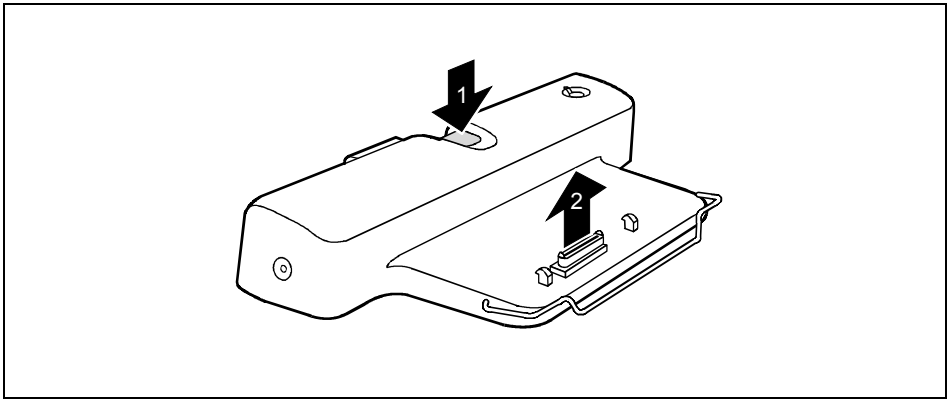
► Close all programmes and shut down your operating system (please see operating system manual).

If the notebook cannot be shut down properly, press the Suspend/Resume button of the Port Replicator for approx. four seconds. The notebook switches off. However, any data which have not been saved may be lost.

Disconnecting the notebook from the Port Replicator

It is not permissible to disconnect the notebook from the Port Replicator during operation.

- ► Switch the notebook off.
- ► Unplug the power adapter from the mains outlet.



- ► Press the button (1).
- ► Lift off the notebook (2).

Security functions

Your notebook enables you to protect your system and personal data in a number of ways against unauthorised access. By combining these options, you can achieve maximum protection for your system.

In this chapter you will learn which security functions your notebook is equipped with, which advantages these functions offer you and how to configure and use them.

Please consider that in the case of improper use, you yourself will also be unable to access your system and your data. Please note therefore the following hints:

- Back up your data on external data carriers at regular intervals.
- Passwords must be assigned for some security functions. Please be sure to note these passwords, as otherwise you will no longer be able to access your system. We recommend that you make a note of the passwords and keep them in a safe place.

If you lose both the user and the admin passwords, you must contact our help desk. The telephone numbers are contained in the supplied help desk list. The loss of passwords is not a warranty case and is therefore subject to charge.

Overview of all security functions

The following sections contain a brief description of the security functions that are provided with your notebook as standard equipment.

Kensington Lock

With the Kensington MicroSaver, a sturdy steel cable, you can protect your notebook and your Port Replicator from theft. Therefore, your notebook and your Port Replicator are equipped with a device for the Kensington MicroSaver. The Kensington MicroSaver is available as an accessory.

Security panel

The security panel enables you to protect your notebook from unauthorised use with a password. When a Security Panel password is activated, the notebook will not start without the correct insertion of a password. The password is entered before the BIOS is read out and the hardware activated.

The password is requested from all suspend and resume modes. This ensures a high level of security even with the energy-saving mode activated.

BIOS password protection

You can protect you personal data from unauthorised access with various passwords. By combining these different options, you can achieve maximum protection for your system.

Password protection for the BIOS setup

With the Supervisor password you prevent unauthorised opening of the *BIOS Setup*, and with it access to important system settings. In the *BIOS Setup* you can also activate protection for the operating system and your hard disk.

Password protection for the operating system

With corresponding settings in the *BIOS Setup* you can block starting of the operating system. Only those who know the supervisor or user password can access the system.

Password protection for your hard disk

By activating the hard disk protection in the *BIOS Setup* you prevent unauthorised access to the hard disk drive. The hard disk password is checked internally during each system start-up and ensures that the hard disk can only be used in conjunction with the related device.

SmartCard reader

Your notebook is equipped with a SmartCard interface. You can purchase the "Mobile Secure IT Suite" as an accessory. It contains a SmartCard and a SmartCard holder. Together with the SmartCard interface this SmartCard holder serves as a versatile SmartCard reader. You can purchase additional SmartCards as accessories. The SmartCard can be used as a particularly secure alternative or as an addition to password protection. SmartCards are just as useful for digital signatures or for encrypting e-mails.

You can also read out other cards with your SmartCard reader (e.g. cell phone cards, health insurance cards, bank cards). For this purpose you also require the software matched to the respective card.

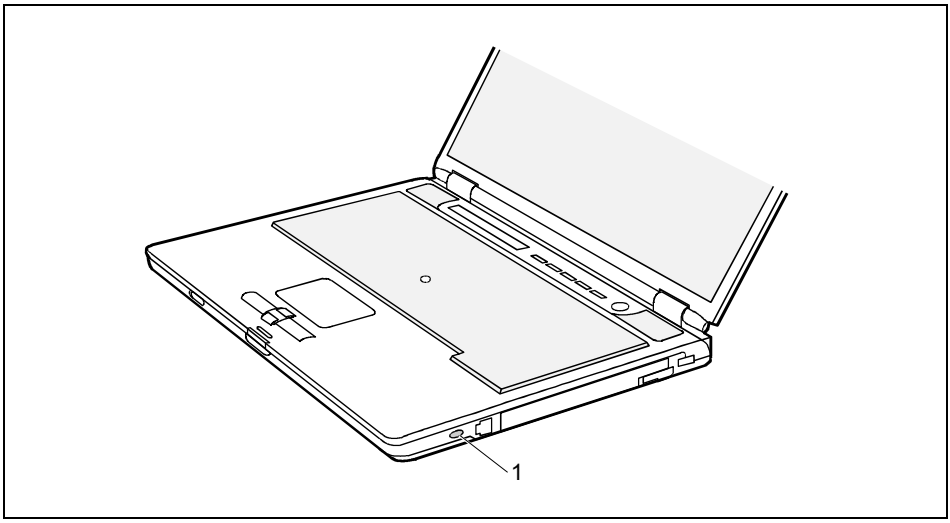
The "Mobile Secure IT Suite" contains several adapters for your cell phone cards. You will find the trial version of a program with which you can conveniently manage your cell phone data and messages on your notebook on the "Security Drivers & Tools" CD.

Brief overview of the security functions

Security function	Type of protection	Preparation
Kensington Lock	Mechanical	Mount and lock Kensington MicroSaver (accessory)
Security panel	Hardware password protection with Supervisor and User password. The passwords are numeric combinations. More than 750,000 combinations are possible.	Install the programs provided and specify the numeric combinations for the Supervisor and User passwords using these programs.
BIOS password protection	Password protection for *BIOS Setup*, operating system and hard disk with Supervisor and User password. The passwords consist of a maximum of eight alphanumeric characters.	Specify at least one Supervisor password in the *BIOS Setup* and activate the password protection for the operating system and hard disk as desired.
SmartCard reader	PIN and SmartCard protection for operating system	Insert SmartCard holder (accessory). Install the corresponding software, e.g. *Smarty* (accessory). Specify a password when using the *Smarty* software.

Using Kensington Lock on notebook

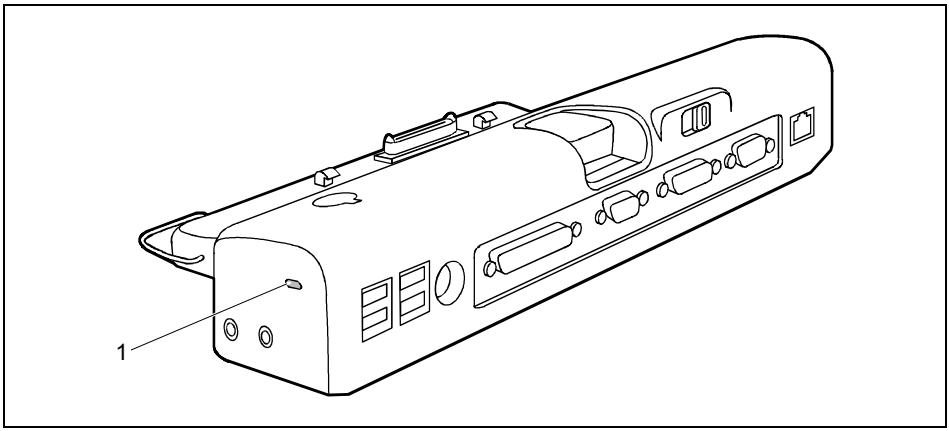
With the Kensington MicroSaver, a sturdy steel cable, you can protect your notebook from theft. For this reason your notebook is equipped with a device for the Kensington MicroSaver. The Kensington MicroSaver is available as an accessory.



► Fit the Kensington MicroSaver on the device (1) on your notebook.

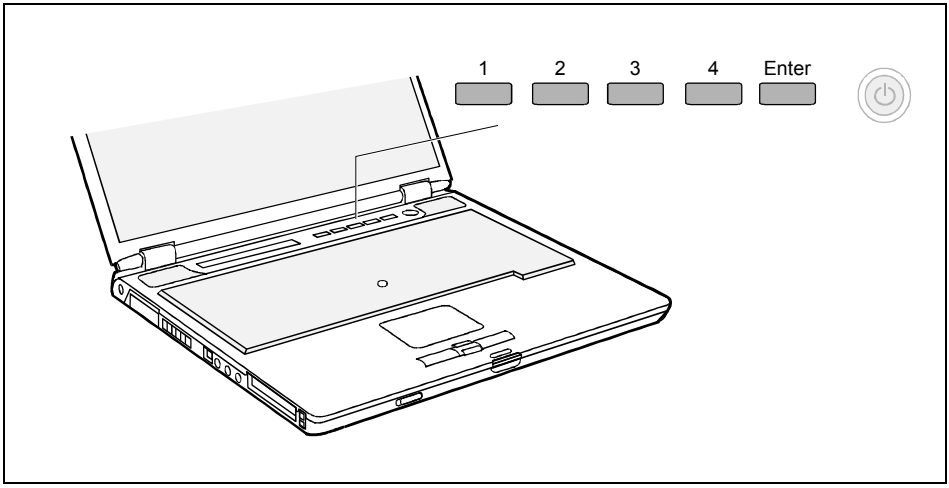
Using Kensington Lock on Port Replicator

With the Kensington MicroSaver, a sturdy steel cable, you can protect your Port Replicator from theft. For this reason your Port Replicator is equipped with a device for the Kensington MicroSaver. The Kensington MicroSaver is available as an accessory.



► Fit the Kensington MicroSaver on the device (1) on your Port Replicator.

Configuring and using Security Panel



Security panel

Configuring Security Panel

When you put your notebook into operation for the first time, the Security Panel is not activated yet. Assign the necessary passwords with the programs *FJSECS.EXE* (Supervisor password) and *FJSECU.EXE* (User password). These programs are ready for installation in the folder *AddOn* and are also provided on the "Drivers & Utilities" CD.

You require the User password each time you want to start your notebook (or want to return to your working interface from the energy-saving mode). Should you forget your User password, you can unlock the notebook with the Supervisor password and assign a new User password.

We recommend that you make a note of the security passwords and keep them in a safe place.

If you should have forgotten both the User password and the Supervisor password you cannot start your notebook any more. In this case you must call our Help Desk. The deletion of security passwords is not a warranty case and is therefore subject to charge.

Back up your data on external data carriers at regular intervals.

To set the passwords, proceed in the following order:

Assigning the supervisor password

The setup programme can be found under *Start* - *AddOn*.

► Double-click on the symbol to start the setup programme for *FJSECS.EXE*.

The programme starts.

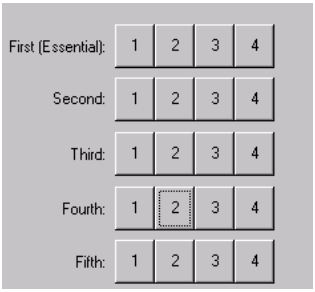
or

► Enter the programme name *FJSECS.EXE* under *Start* - *Run*.

► Click on *OK*.

The programme starts.

The program instructions will help you configure the password.



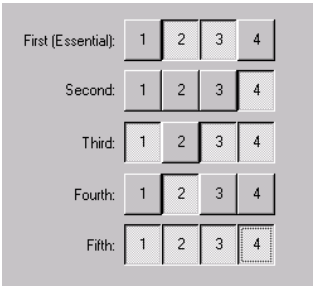
You see a field with five lines and 4 keys each with the numbers 1 to 4 for selecting your password. You can select one number or a combination of several numbers in each line.

► Click one to four keys in the first line.

► You can also click a key or key combination in additional lines if desired.

Here it is important that you do not skip a line. In the end your password consists of one to five numbers or one to five number combinations.

With a combination you must press the security keys with these numbers simultaneously later when entering the password.



An example:

Here the combination 2, 3 was selected in the first line, the number 4 in the second line, the combination 1, 3 and 4 in the third line, the number 2 in the fourth line and finally the combination 1, 2, 3 and 4 in the fifth line.

In this case the supervisor password is then:

2/3 4 1/3/4 2 1/2/3/4

Assigning the user password

The setup programme can be found under *Start - AddOn*.

► Double-click on the symbol to start the setup programme for *FJSECU.EXE*.

The programme starts.

or

► Enter the programme name *FJSECU.EXE* under *Start - Run*.

► Click on *OK*.

The programme starts.

The program instructions will help you configure the password. Enter the user password with its numbers and number combinations in the same way as the supervisor password.

Using Security Panel

Entering security password

During the next reboot a key symbol in the display field indicates that Security Panel is activated. Your notebook does not start up until you have correctly entered your selected user password.

For the example in the section "Assigning the supervisor password" (2/3 4 1/3/4 2 1/2/3/4), the following steps are necessary:

► Simultaneously press the security keys 2 and 3.

► Press the security button 4.

► Simultaneously press the security keys 1, 3 and 4.

► Press the security button 2.

► Simultaneously press the security keys 1, 2, 3 and 4.

► Then press the Enter key to complete the entry.

Your notebook boots.

i

The Security Panel is never activated with the functions *Wake on Ring*, *Wake on LAN* and *Time Resume*. This means the notebook boots without password entry with the functions named.

Password error alarm

If the password is entered incorrectly three times, a one-minute alarm is triggered. If the correct password is still entered during the alarm, the notebook boots as usual.

After one minute the notebook stops the alarm. The user must press the Suspend/Resume key. The key symbol appears in the display field - the user must now enter the correct user password. Upon correct entry the notebook boots.

Changing or removing security password

After you have installed the programs *FJSECS.EXE* and *FJSECU.EXE*, you will find the entry *Security control* under *Start - Programs*. Here you can change or completely remove your user password. In this case follow the instructions of the programme.

Configuring password protection in BIOS Setup

Before using the various options of password protection for your data security in the *BIOS Setup*, please note the following hints:

- Please keep in mind your passwords in any case, as you will not be able to access your *BIOS Setup* and/or your system any longer, if you forget both the user password and the supervisor password.
  The loss of passwords is not a warranty case and is therefore subject to charge.
- Back up your data on external data carriers at regular intervals.

Passwords can be up to eight characters long. You can use all alphanumeric characters and need not distinguish between uppercase and lowercase characters.

Password protection for BIOS Setup (supervisor and user password)

We recommend that you print out the following instructions, as these cannot be displayed while setting the password.

You prevent unauthorised opening of the *BIOS Setup* with both the supervisor and the user password. With the supervisor password you have access to all functions of the *BIOS Setup*, and with the user password only to part of the functions. You can only set a user password if a supervisor password has already been assigned.

Please refer to section "Settings in BIOS Setup" for a description of calling and operating the *BIOS Setup*.

Set the supervisor and user password

► Call *BIOS Setup* and select the *Security* menu.

► Mark the *Set Supervisor Password* field and press the Enter key.

With *Enter new Password:* you are then requested to enter a password.

► Enter the password and press the Enter key.

With *Confirm new Password* you are asked to confirm the password.

► Enter the password again and press the Enter key.

With *Notice: Changes have been saved* you receive a confirmation that the new password has been saved.

► To assign the user password, mark the field *Set User Password* and proceed exactly as when configuring the supervisor password.

If you do not want to make any other settings, you can exit *BIOS Setup*.

► Select the *Exit Saving Changes* option in the *Exit* menu.

The notebook is rebooted and the new password is effective. If you now want to open the *BIOS Setup*, you must first enter your supervisor or user password. Please note that you only have access to a few BIOS settings with the user password.

Change supervisor or user password

► Recall *BIOS Setup* and select the *Security* menu.

When changing the password, proceed exactly as for password assignment.

You can only change the supervisor password when you have logged into the *BIOS Setup* with the supervisor password.

Cancelling passwords

To cancel a password (without setting a new password) run the following steps:

► Call *BIOS Setup* and select the *Security* menu.

► Mark the *Set User Password* or *Set Supervisor Password* field and press the Enter key.

With *Enter new Password* you will then be asked to enter a password.

► Press the Enter key twice.

► Select the *Exit Saving Changes* option in the *Exit* menu.

The notebook is rebooted and the password is cancelled.

With the supervisor password you simultaneously deactivate the user password.

Password protection for starting the operating system

With the supervisor password or the user password, you have assigned in the *BIOS Setup* (see section "Set the supervisor and user password"), you can also prevent booting of the operating system.

Activating system protection

- ► Call *BIOS Setup* and select the *Security* menu.
- ► If you have not assigned BIOS passwords yet, define the supervisor and the user password now, if desired (see "Set the supervisor and user password" section).
- ► Mark the *Password on Boot* field and press the Enter key.
- ► Select the *Every Boot* entry and press the Enter key.

If you do not want to make any other settings, you can exit *BIOS Setup*.

- ► Select the *Exit Saving Changes* option in the *Exit* menu.

The notebook reboots and you are asked to enter your password (the supervisor or user password).

Deactivating system protection

- ► Call *BIOS Setup* and select the *Security* menu.
- ► Mark the *Password on Boot* field and press the Enter key.
- ► Select *Disabled* and press the Enter key.

If you do not want to make any other settings, you can exit *BIOS Setup*.

- ► Select the *Exit Saving Changes* option in the *Exit* menu.

The notebook reboots and there is no longer any password protection for the operating system.

Password protection for hard disk

The had disk password prevents unauthorised access to the hard disk drives and is checked internally each time the system is booted. The condition for this is that you have assigned at least the supervisor password.

Activating hard disk protection

► Call *BIOS Setup* and select the *Security* menu.

► If you have not assigned BIOS passwords yet, define the supervisor and the user password now, if desired (see "Set the supervisor and user password" section).

► Mark the *Hard Disk Security* field and press the Enter key.

► Mark the *Set Primary Master Password* field and press the Enter key.

With *Enter new Password:* you are then requested to enter a password.

► Enter the password and press the Enter key.

With *Confirm new Password* you are asked to confirm the password.

► Enter the password again and press the Enter key.

With *Notice: Changes have been saved* you receive a confirmation that the new password has been saved.

► If you want to assign the password for the second hard disk, mark the field *Set Secondary Master Password* and proceed exactly as when configuring the password for the first hard disk.

The field *Password Entry on Boot* is set to *Enabled* in the default setting.

If you do not want to make any other settings, you can exit *BIOS Setup*.

► Select the *Exit Saving Changes* option in the *Exit* menu.

The notebook reboots and your hard disk is now protected with a password. The password request becomes active as soon as the hard disk is installed in another computer and the computer is started.

Deactivating hard disk protection

To cancel a password (without setting a new password) run the following steps:

► Call *BIOS Setup* and select the *Security* menu.

► Mark the *Hard Disk Security* field and press the Enter key.

► Mark the *Set Primary Master Password* field and press the Enter key.

With *Enter new Password* you will then be asked to enter a password.

► Press the Enter key twice.

► Select the *Exit Saving Changes* option in the *Exit* menu.

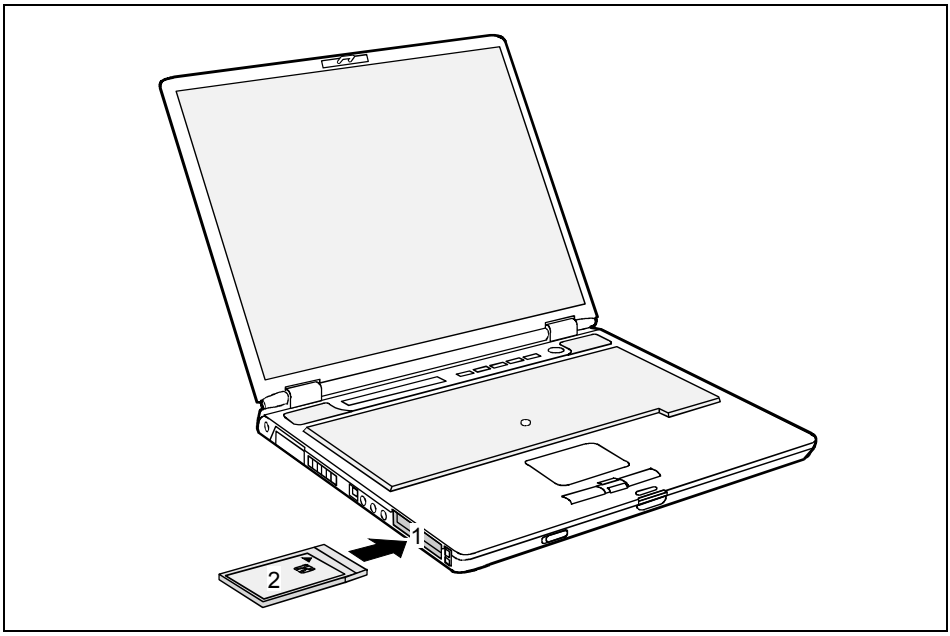
The notebook is rebooted and the password is cancelled.

With the password for the first hard disk you simultaneously deactivate the password for the second hard disk.

► Select the *Exit Saving Changes* option in the *Exit* menu.

The notebook reboots and there is no longer any password protection for the hard disk.

Configuring and using SmartCard reader

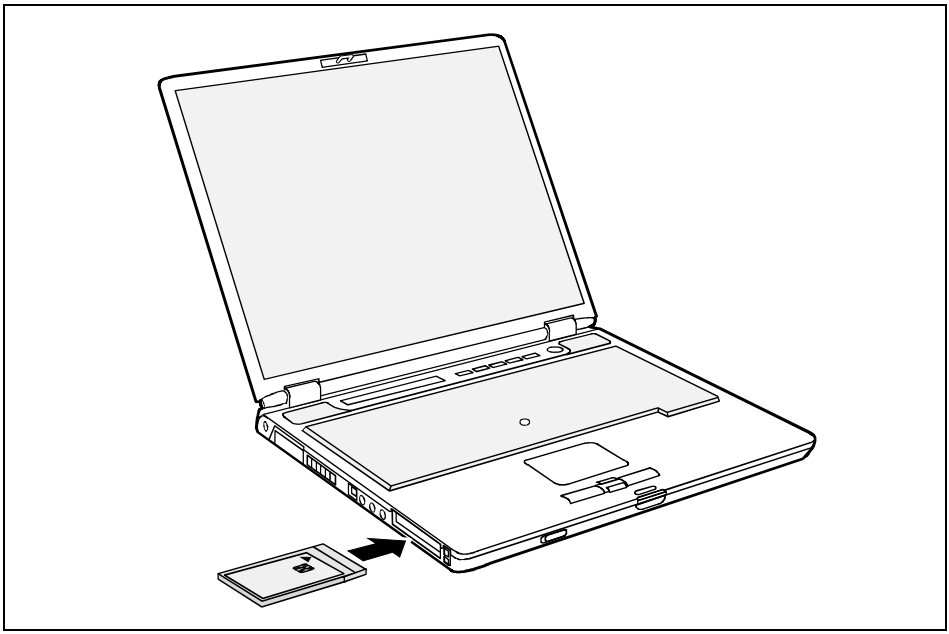


1 = PC card slot with SmartCard Interface
2 = SmartCard holder
1 + 2 = SmartCard reader

To use the SmartCard reader, you must install a SmartCard holder in your notebook. The SmartCard holder is contained in the "Mobile Secure IT Suite", which is available as an accessory.

Configuring SmartCard reader

Do not use force when installing and removing the SmartCard holder.
Make sure that foreign objects do not fall into the SmartCard holder.



- ► Insert the SmartCard holder in the lower slot guide with the connection contacts first.
- ► Carefully slide the SmartCard holder into the slot with the sticker facing upward until it audibly engages.

You can lower the eject button into the notebook casing. Press the eject button until it snaps in. This prevents the SmartCard holder from being ejected accidentally.

Installing drivers

Windows will detect the installed SmartCard holder as new hardware and will search for the chip driver. The driver is provided on the "Security Drivers & Tools" CD, which is also included with the "Mobile Secure IT Suite".

► Follow the instructions that appear on the screen after inserting the CD.

The SmartCard reader is now configured.

To remove the SmartCard holder, proceed exactly as for a PC card (see "Working with the notebook" chapter, "Removing a PC card" section).

SmartCards

SmartCards are not supplied as standard equipment. You can use all SmartCards that comply with the ISO standard 7816-1, -2 or -3. These SmartCards are available from various manufacturers.

With the appropriate software you can use your SmartCard as an alternative to password protection, but also as a digital signature, for encrypting your e-mails or for homebanking.

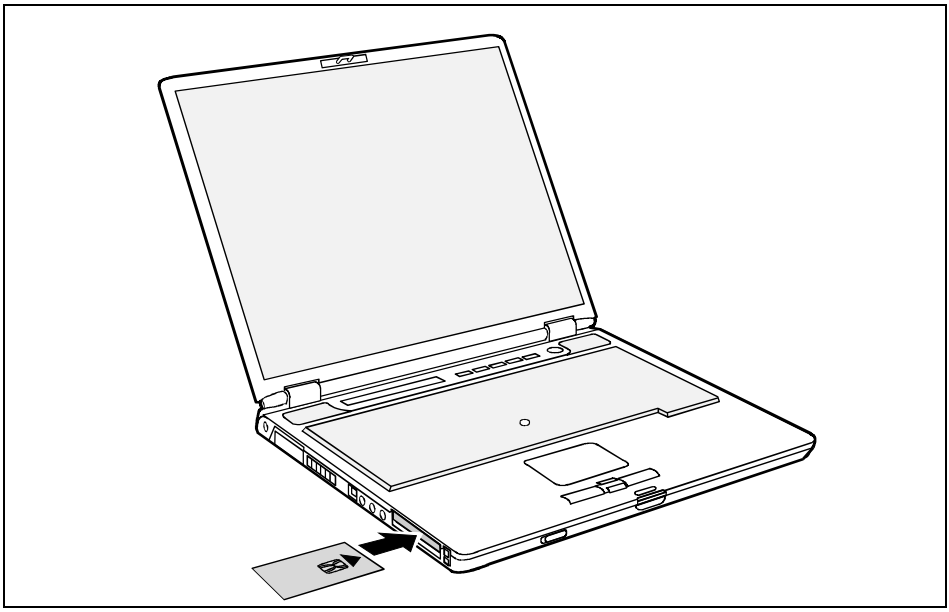
We recommend that you always use two SmartCards. Always keep one of the SmartCards in a safe place if you carry the other SmartCard with you.

The SmartCard can only be used with a PIN so protection is maintained even when the SmartCard is lost. The SICRYPT SmartCard, that is included in the "Mobile Secure IT Suite", is locked after an incorrect PIN is input three times, to ensure maximum security for you.

The first time you use your SmartCard you must enter the preset PIN provided by the SmartCard manufacturer or your system administrator.

Inserting the SmartCard

Do not use force when inserting and removing the SmartCard.
Make sure that foreign objects do not fall into the SmartCard holder.



► Slide the SmartCard into the SmartCard reader with the chip facing upward and at the front.
When the SmartCard is properly inserted, it protrudes by approximately 1.5 cm.

Application examples

SmartCard as device protection

After you insert the SmartCard, you are prompted in the logon screen to enter your PIN. Upon correct entry the SmartCard is checked and the operating system is booted.

The SmartCard remains in the SmartCard reader during the entire work session.

In the *Smarty* software you can specify how the user is to log on to the operating system:

- only with SmartCard and PIN
- either with SmartCard and PIN or with password entry

To install, configure and use *Smarty*, please see the documentation and online help on the CD for the *Smarty* software.

SmartCard for protecting your opened documents

In conjunction with software such as *Smarty* (accessory), the SmartCard allows you to interrupt your work. So you can leave your notebook unattended without unauthorised persons being able to access your opened documents and data.

► Pull the SmartCard out of the notebook during your work session.

A window appears stating that the system is locked.

► When you want to continue your work, insert the SmartCard and enter your PIN.

You return to your opened documents.

Using SmartCard reader with your cell phone card

Your "Mobile Secure IT Suite" contains black plastic adapters into which you can slide your GSM card.

► Insert the adapter in the SmartCard reader with the GSM card first.

► Install the *SIMEdit!* software from the "Security Drivers & Tools" CD.

Now you can comfortably manage both your data (telephone numbers, addresses) and your messages (SMS) from your notebook.

SmartCard as system protection (SystemLock)

With *SystemLock*, the notebook can only be started with an initialised SmartCard (SICRYPT or CardOS) and personal identification number (PIN). SmartCard and PIN are already checked during system booting in the *BIOS Setup*, i.e. before the operating system is booted. To use *SystemLock*, the following conditions must be met:

- You must configure a SmartCard reader (see "Configuring and using SmartCard reader") section.
- You must install *SystemLock* on your notebook.
- You must initialise two SmartCards (one Supervisor SmartCard and one User SmartCard).

All new SmartCards have a preset PIN (Personal Identification Number) and a preset PUK (Personal Unblocking Key).

On SICRYPT and CardOS SmartCards PIN and PUK are preset to *12345678*.

For reasons of security, we recommend that you change both PIN and PUK.

Access rights of the SmartCards

New SmartCards have only a preset PIN and a preset PUK. The initialisation is carried out after entering the PUK. Access rights and an individual PIN are not assigned until the SmartCard is initialised. Depending on which access rights the SmartCard is assigned, this is referred to as a User SmartCard or a Supervisor SmartCard.

The following table shows an overview of the rights associated with each SmartCard type when a PIN or PUK is entered:

Rights	User SmartCard		Supervisor SmartCard	
	PIN	PUK	PIN	PUK
System start-up	X		X	
Calling *BIOS Setup*	X		X	
Changing own PIN	X		X	X
Unblocking all blocked SmartCards				X
Creating user SmartCard				X
Deactivating *SystemLock*				X

Installing SystemLock

During initial installation, the first SmartCard becomes the Supervisor SmartCard. Together with the PUK, it has all access rights, and should therefore be kept in a safe place. Before you can configure *SystemLock*, you must assign a Supervisor password and a User password in the *BIOS Setup*.

► Assign a Supervisor password and a User password in the *BIOS Setup* (see the "Configuring password protection in BIOS Setup" section).

Then you must initialise the Supervisor SmartCard and the User SmartCard and switch over the *SmartCard Security* (*SystemLock*) from *Disabled* to *Enabled*.

Initialise the Supervisor SmartCard and the User SmartCard and activate the SmartCard Security (SystemLock)

► Call *BIOS Setup* and select the *Security* menu.

► Mark the *SmartCard Security* field and press the Enter key.

► Mark the *SmartCard SystemLock* field and press the Enter key.

► Select the *Enabled* field and press the Enter key.

► Now insert your SmartCard and select *Yes* in the *Setup Confirmation* window.

► Enter your PUK in the *Enter PUK* field and press the Enter key.

The following message appears: `Supervisor SmartCard initialized`

After you have successfully initialised your Supervisor SmartCard, you must initialise the User SmartCard:

► Mark the *Initialize User SmartCard* field and press the Enter key.

► Now insert your User SmartCard, enter your PUK in the *Enter PUK* window and press the Enter key.

The following message appears: `User SmartCard initialized`

Your Supervisor and User SmartCard are now ready to use. However, for security reasons we urgently recommend that you change your PIN and your PUK.

Changing PIN and PUK

► Call *BIOS Setup* and select the *Security* menu.

► Mark the *SmartCard Security* field and press the Enter key.

► Mark the *Change PIN* field and press the Enter key.

► Insert the SmartCard for which you want to change the PIN and press the Enter key.

► In the *Change PIN* window, first enter your old PIN, assign your new PIN in the next line and confirm it again in the *Confirm New Pin* window.

The following message appears: `PIN has been changed`

To change your PUK, you must select the *Change PUK* field and carry out the same steps.

For the new PIN and new PUK , 4 to 8-digit numbers are acceptable.
For security reasons, we recommend that you change the PIN and PUK for every SmartCard, and use an 8-digit number each time.

Switching on the PC with SystemLock

If you switch on the notebook with an On/Off switch then the following message appears:

`Insert a SmartCard`

► Insert your SmartCard.

The following message appears: `Enter PIN:`

`Enter PIN:`

► Enter your PIN.

If you have entered the PIN correctly, the operating system is booted.

If you have entered the PIN incorrectly once or twice, then the following message appears:

`Invalid PIN/PUK`

If you have entered the PIN incorrectly three times, the SmartCard is blocked and the following message appears:

`The SmartCard is blocked`

The SmartCard can only be enabled again by entering the PUK.

Deactivating SmartCard as system protection (SystemLock) again

If you no longer want to use this security function of your notebook, you must deactivate the *SmartCard SystemLock* function in the *BIOS Setup*. This can only be done with the Supervisor SmartCard.

► Call *BIOS Setup* and select the *Security* menu.

► Mark the *SmartCard Security* field and press the Enter key.

► Mark the *SmartCard SystemLock* field and press the Enter key.

► Select the *Disnabled* field and press the Enter key.

Troubleshooting

Security panel

You have forgotten your password or passwords.

If you have forgotten the user password, you can reset the forgotten user password and specify a new user password with the supervisor password.

If the Security panel is active and you have forgotten both the user password and the supervisor password, then contact our help desk. You must provide proof of ownership for the notebook. Then the help desk will refer you to our service partner, who will unlock your notebook (for a charge).

BIOS passwords

You have forgotten your user and/or supervisor password.

If you have forgotten your user password, enter the supervisor password or contact your system administrator. If the supervisor password is also no longer available, contact our help desk. You must provide proof of ownership for the notebook. Then the help desk will refer you to our service partner, who will unlock your notebook (for a charge).

SmartCard reader

Your SmartCard is not recognised.

Make sure you have inserted your SmartCard into the SmartCard holder with the chip facing upward. Also make sure you are using a supported SmartCard. Your SmartCard must comply with the ISO standard 7816-1, -2 or -3.

You have forgotten your PIN.

If you work in a network, contact your system administrator, who can unlock your notebook with an Admin PIN.

You have lost your SmartCard.

If you work in a network, contact your system administrator, who can boot your notebook with an Admin SmartCard.

You have lost your user and/or supervisor SmartCard.

If you have lost your User SmartCard, you can continue working with the Supervisor SmartCard and can initialise a new User SmartCard or deactivate the *SystemLock* function. If you have lost the Supervisor SmartCard, you can also continue working, but you no longer have all rights and cannot initialise another Supervisor-SmartCard.

If you have lost both SmartCards, you cannot boot your system.

Please contact our help desk. You must provide proof of ownership for the notebook. Then the help desk will refer you to our service partner, who will unlock your notebook (for a charge).

Connecting external devices

Under all circumstances, please observe the safety notes provided in the "Important notes" chapter.

Read the documentation on the external device before connecting it.

Do not connect or disconnect cables during a thunderstorm.

Do not pull on the cable when disconnecting a cable. Always take hold of the actual plug.

Adhere to the order described in the following when you connect external devices to the notebook or separate them from the notebook:

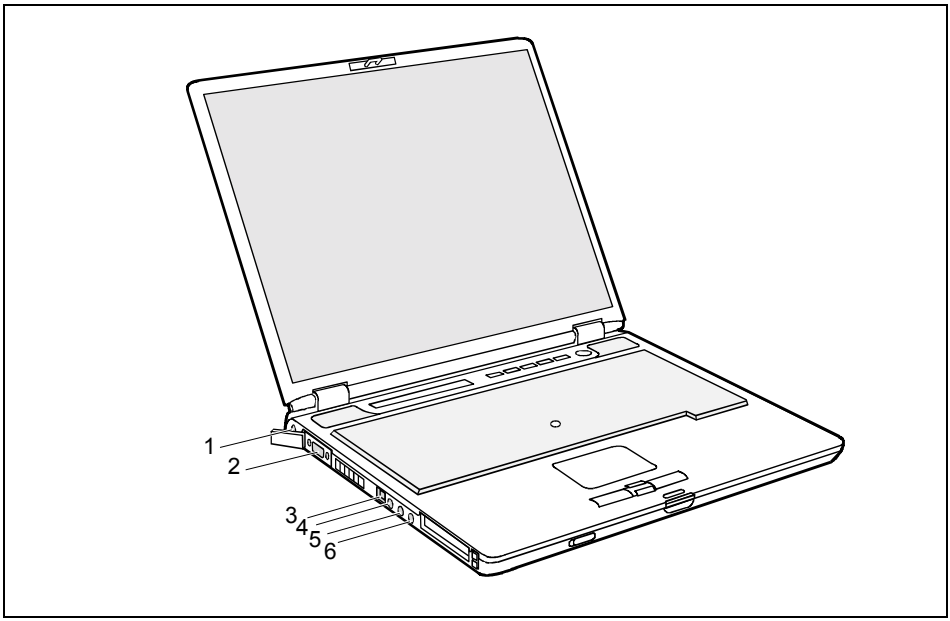
Connecting devices to notebook

1. Turn off all power and equipment switches.
2. Remove all power plugs from the mains outlets.
3. Connect all the cables to the notebook and the external devices.
4. Plug all data communication cables into the utility sockets.
5. Plug all power cables into the mains supply.

Disconnecting devices from notebook

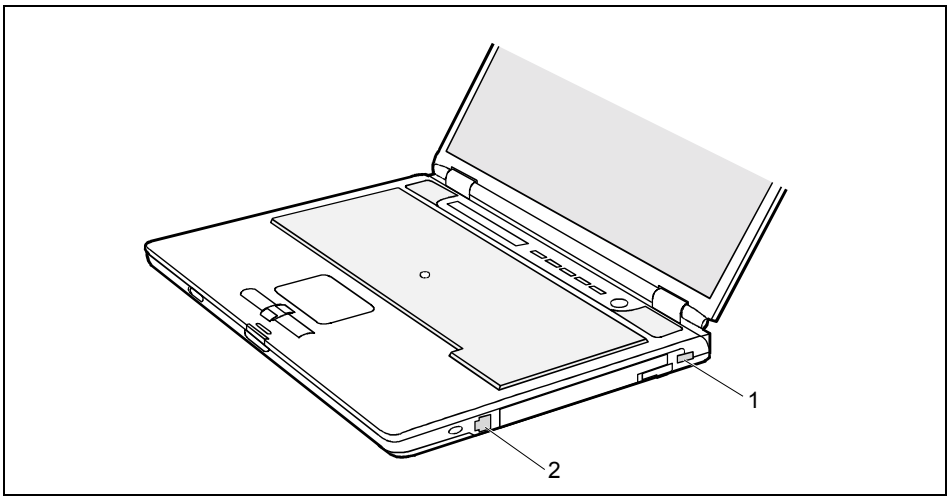
1. Turn off all power and equipment switches.
2. Remove all power plugs from the mains outlets.
3. Unplug all data communication cables from the utility sockets.
4. Disconnect all the cables from the notebook and the external devices.

Connections on notebook



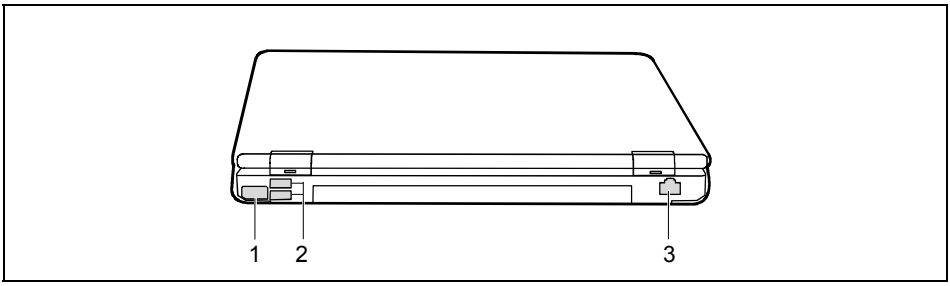
1 = DC jack (DC IN)
2 = Monitor port (with port cover folded open)
3 = FireWire port
4 = Line In socket
5 = Microphone jack
6 = Headphones port

i When the notebook is connected to the Port Replicator, the audio connections on the notebook are deactivated: Line In socket, microphone jack and headphone port.



1 = USB port

2 = Modem port

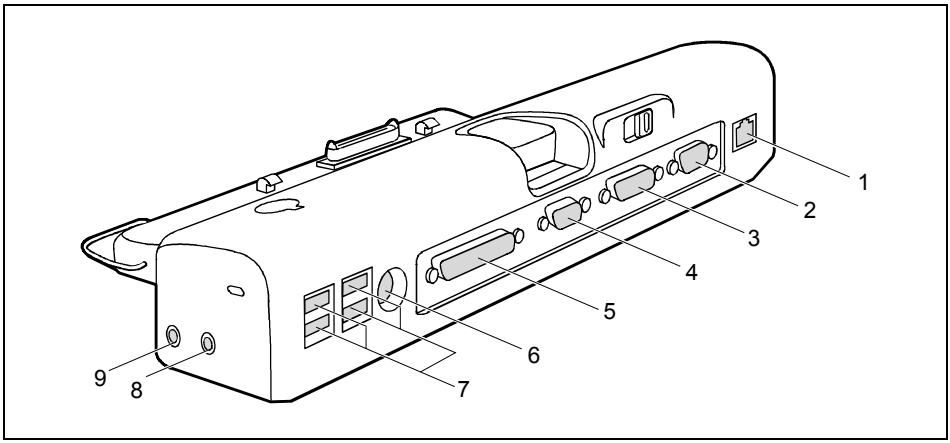


1 = Infrared interface

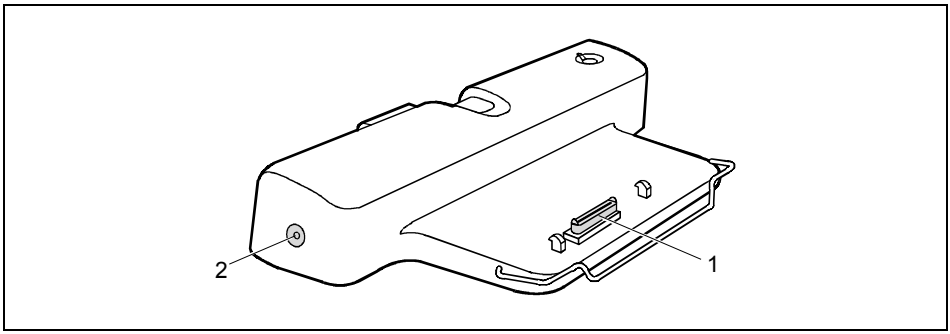
2 = USB ports

3 = LAN connector

Ports on the Port Replicator



1 = LAN connector
2 = Serial port
3 = DVI-D port (digital)
4 = Monitor port (analogue)
5 = Parallel port
6 = PS/2 port (for keyboard or mouse)
7 = USB ports
8 = Headphones port
9 = Microphone jack



1 = Connector of the Port Replicator for the docking port on the underside of the notebook
2 = DC jack (DC IN)

i Some of the devices that you connect require special drivers (see the operating system and device documentation).

Connecting an external monitor to the notebook

An external monitor can be connected to the notebook. The notebook graphics card supports extended XGA resolutions up to 1600 x 1200 and 16.7 million colours at 85 Hz.

Using the Fn + F10 key combination you can switch back and forth between the external monitor and the LCD screen.

- ► Switch off the notebook and the external monitor.
- ► Connect the data cable of the external monitor to the monitor port of the notebook.
- ► First switch on the monitor and then the notebook.

Setting the refresh rate for your external monitor

The refresh rate must be correctly set so that the image does not flicker.

- ► Select the monitor type in the menu *Start - Control Panel - Appearance and Themes - Display - Settings - Advanced - Display*.
- ► Adjust the refresh rate and then click *Apply*.

If the refresh rate set is too high, the monitor may be damaged. Please see the documentation included with your monitor for the maximum possible refresh rate.

Connecting an external monitor to the Port Replicator

An external monitor can be connected to the notebook. The notebook graphics card supports extended XGA resolutions up to 1600 x 1200 and 16.7 million colours at 85 Hz.

Using the Fn + F10 key combination you can switch back and forth between the external monitor and the LCD screen.

- ► Switch off the notebook and the external monitor.
- ► Connect the external monitor's data cable to the monitor port (analogue) an on the Port Replicator.

or

- ► Connect the external monitor's data cable to the DVI-D port (digital) on the Port Replicator.
- ► First switch on the monitor and then the notebook.

If the notebook is connected to a Port Replicator, the operating system creates an hardware profile for the "Docked" mode. The setting with the last screen used for output is saved in this profile. This profile will be loaded, as soon as the notebook is connected to any desired Port Replicator.

Setting the refresh rate for your external monitor

The refresh rate must be correctly set so that the image does not flicker.

► Select the monitor type in the menu *Start* - *Control Panel* - *Appearance and Themes* - *Display* - *Settings* - *Advanced* - *Display*.

► Adjust the refresh rate and then click *Apply*.

If the refresh rate set is too high, the monitor may be damaged. Please see the documentation included with your monitor for the maximum possible refresh rate.

Connecting an external keyboard

You do not need to switch your notebook off.

► Connect the external keyboard to the PS/2 port on the Port Replicator.

Connecting an external PS/2 mouse

You do not need to switch your notebook off.

► Connect the mouse to the PS/2 port of the Port Replicator.

Using the parallel port

► Switch the notebook off.

► Connect the data cable of the printer to the parallel interface on the Port Replicator.

► Plug the printer power cable into the mains outlet.

► First switch the printer on, then the notebook.

Connecting USB devices

On the USB ports you can connect external devices that also have a USB port (e.g. a printer, a scanner or a modem).

USB devices are hot-pluggable. This allows cables from USB devices to be connected and disconnected with the system switched on.

Additional information can be found in the documentation for the USB devices.

- ► Connect the data cable to the external device.
- ► Connect the data cable to the USB port of the notebook.

  or

  Connect the data cable to the USB port on the Port Replicator.

Device drivers

The devices you connect to the USB ports usually require no driver of their own, as the required software is already included in the operating system. However, if the USB device requires its own software, please install it from the data carrier provided with the USB device.

Connecting external audio devices

Line In socket

With the Line In socket you can connect audio devices with an analogue output to your notebook.

Microphone jack

Via the microphone port you can connect an external microphone to your notebook.

Headphones port

Via the headphone port you can connect either headphones or external loudspeakers to your notebook.

Connecting FireWire devices

External devices such as digital audio/video devices or other high-speed devices can be connected to the FireWire port. The FireWire port operates at a speed of 400 Mbit per second.

FireWire devices are hot-pluggable. Therefore, the cables of FireWire devices can be connected and disconnected with the system switched on.

Additional information is provided in the documentation of the FireWire devices.

- ► Connect this data cable of the external devices to the FireWire port of the notebook.
- ► Plug the power cable of the external device into the mains outlet.

Memory expansion

Your notebook has 256 Mbyte - 2 Gbyte of main memory installed, depending on the upgrade level. The notebook will not start without memory modules, as no fixed main memory is installed.

Installing and removing the memory extension

Please note the information provided in the "Notes on installing and removing boards and modules" section in the "Important notes" chapter.

The notebook must be switched off when installing/removing the memory modules, it must not be in Suspend mode.

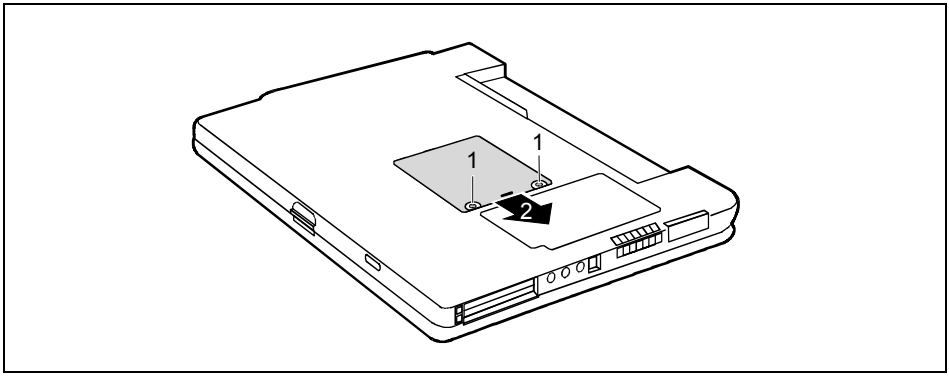
Use only memory extensions of the manufacturer which have been approved for your notebook (256, 512 Mbyte modules or 1 Gbyte modules of the type DDR333 SDRAM).

Never use force when installing or removing memory modules.

Make sure that foreign objects do not fall into the memory module compartment.

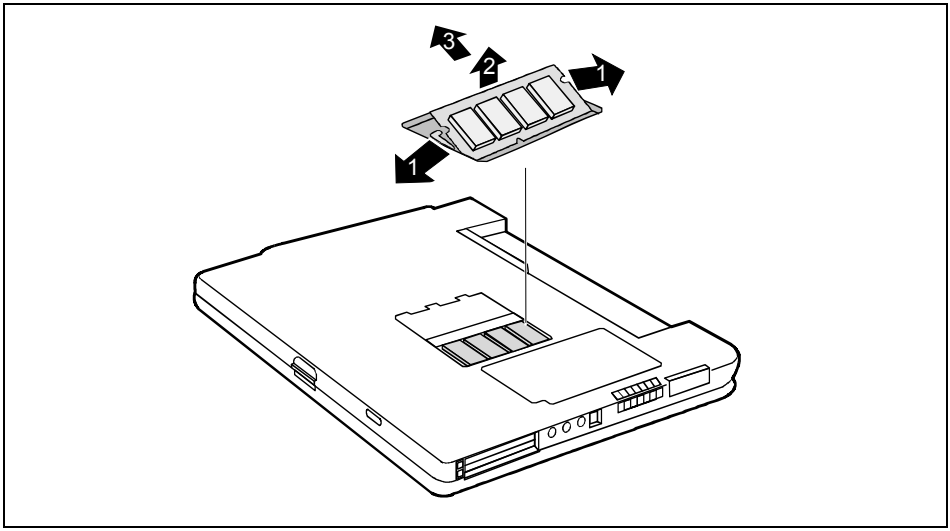
- ► Switch the notebook off.
- ► Close the LCD screen so that it locks into place.
- ► Unplug the power adapter from the mains outlet.
- ► Disconnect all cables connected to the notebook.
- ► Remove the battery (see "Working with the notebook" chapter, "Removing battery" section).
- ► Place the notebook upside down on a flat surface.

Removing cover



- ► Remove the screws (1).
- ► Pull off the cover from the notebook in the direction of the arrow (2).

Removing a memory module

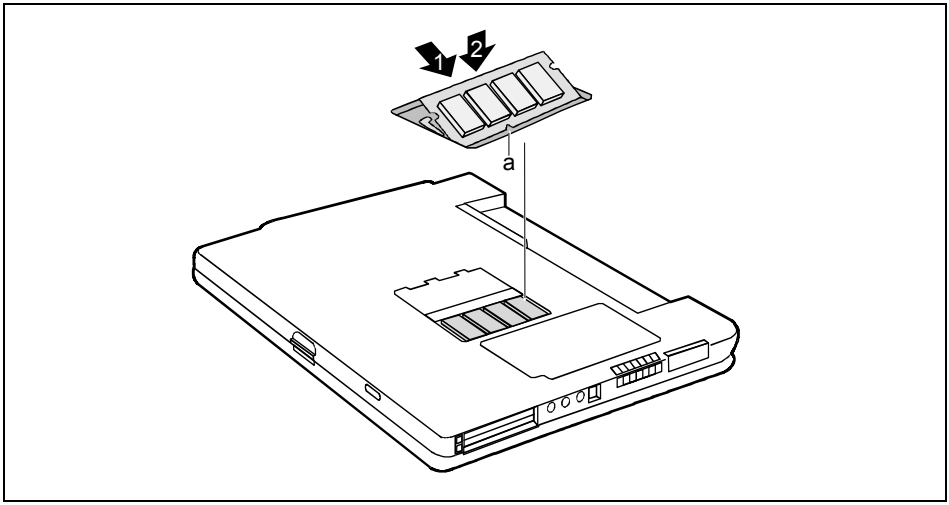


► Carefully push the two mounting clips outwards (1).

The memory module will flap upward (2).

► Pull the memory module out of its slot in the direction of the arrow (3).

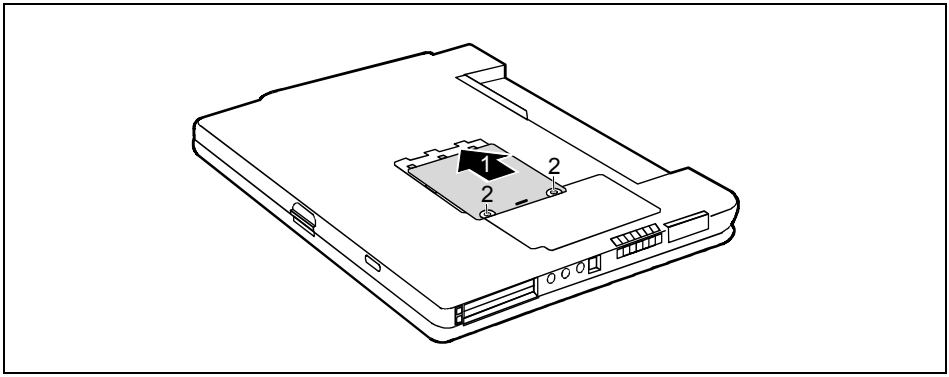
Installing a memory module



► Insert the memory module with the contacts and the recess (a) facing the slot (1).

► Carefully push the memory module downwards until it engages noticeably (2).

Mounting the cover



► Position the cover on its slot in the direction of the arrow (1).

► Fasten the cover with the screws (2).

► Reinstall the battery (see "Working with the notebook" chapter, "Inserting battery" section).

► Turn the notebook over and place it on a flat surface.

► Reconnect the cables.

Energy saving functions

The notebook uses less power when the power management features are enabled. You will then be able to work for longer before having to recharge the battery.

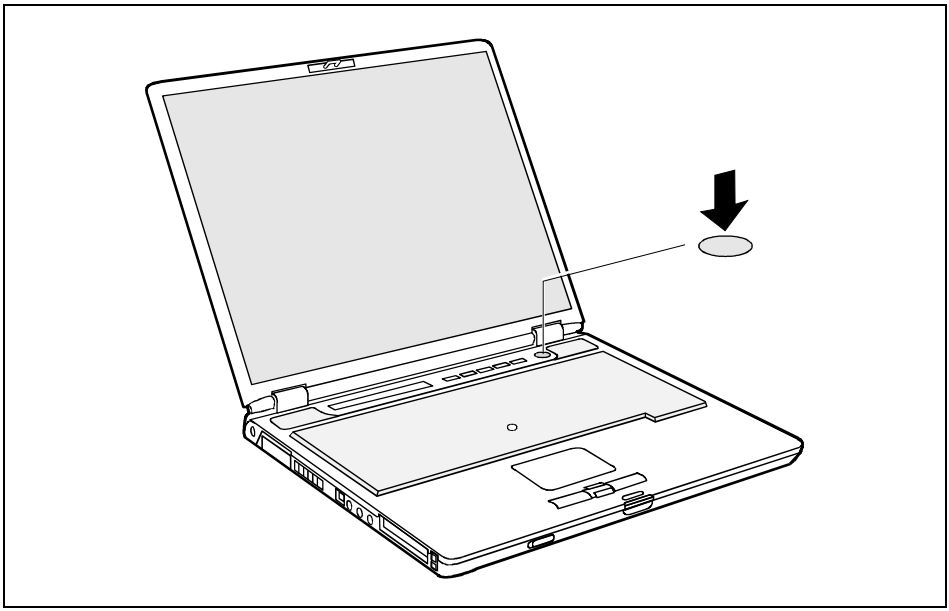
Never switch the notebook off with the Suspend/Resume button while the notebook is in one of the energy-saving modes.

When not using the notebook for long periods of time, first end the energy saving mode, then switch off the notebook.

If your notebook is in an energy-saving mode:

- Do not connect any external devices.
- Do not disconnect any external devices.
- Do not disconnect the notebook from the Port Replicator.
- Do not attempt to switch the notebook on if the built-in battery is flat.
- Do not add or remove RAM.
- Do not add or remove a PC card.
- Do not replace or remove the battery.

Standby mode



► Press the Suspend/Resume button to switch the Standby mode on and off.

You can configure the Suspend/Resume button under *Start - Control Panel - Performance and Maintenance - Power Options - Advanced*.

In the Standby/Suspend-to-DRAM mode the content of your main memory is saved by continuing to supply the main memory with power, while the processor, monitor, hard disk and other internal components are switched off. This mode is activated whenever you press the Suspend/Resume button. Saving is also triggered when you do not make an entry on your notebook for a certain time. When you resume work, your notebook returns to the place at which you discontinued working.

If you use an integrated LAN/Modem, a PC-LAN card or a PC modem card, we do not recommend switching over to the Standby mode, as this may lead to an interruption in the network connection.

When you press the Suspend/Resume button for more than 4 seconds, your notebook will switch off.

You can set the power-management features for your notebook under *Start - Control Panel - Performance and Maintenance - Power Options*.

Additional information on this service programme is contained in your operating system help files.

Settings in BIOS Setup

In *BIOS Setup* you can set the system functions and the hardware configuration of the notebook. The settings can only be changed via the keyboard.

When it is delivered, the notebook is set to factory default settings. You can change these settings in *BIOS Setup*. Any changes you make take effect as soon as you save and quit the *BIOS Setup*.

The *BIOS Setup* programme contains the following menus:

Main:	for system settings as time, date, hard disk and monitor selection
Advanced:	for system settings such as ports and keyboard
Security:	for password settings and safety functions
Boot:	for configuring the boot sequence
Info:	for displaying the system configuration (e.g. processor and memory configuration)
Exit:	to exit the *BIOS Setup*

Start BIOS Setup

► Restart the notebook (switching ON/OFF or warm boot).

The following display briefly appears on the screen during start-up:

```
<ESC> Diagnostic screen   <F12> Boot Menu   <F2> BIOS Setup
```

► When this message appears, press the function key **F2**.

If a password has been assigned:

► Enter the password and press the Enter key.

If you have forgotten the password, contact your system administrator or contact our hotline/help desk.

Operating BIOS Setup

Press the F1 key to display help on the operation of *BIOS Setup*.
The description of the individual settings is shown in the right-hand window of the *BIOS Setup*.

You can revert to the default settings for the *BIOS Setup* menu you are currently in, by using the F9 function key.

- ► Use the cursor key ← or → to select the menu you wish to access to make changes.
- ► Press the Enter key.

The menu is displayed on the screen.

- ► Use the cursor key ↑ or ↓ to select the field you wish to change.
- ► Press the Enter key to confirm your selection.
- ► Press the ESC key to exit the selected menu.
- ► For future reference, make a note of the changes you have made (for example, in this manual).

Exiting BIOS Setup

To exit *BIOS Setup*, select the *Exit* menu from the menu bar. You can then decide which settings you want to save. The *Exit* menu offers the following options.

You must mark the required option and activate it with the Enter key.

Exit Saving Changes

Select *Exit Saving Changes* and *Yes* to save the current settings and exit the *BIOS Setup*. The device is rebooted and the new settings come into effect.

Exit Discarding Changes

Select *Exit Discarding Changes* and *Yes* to discard the changes you have made. The settings which were in force when *BIOS Setup* was called remain effective. *BIOS Setup* is terminated and the device is rebooted.

Load Setup Default

To revert all the menus of *BIOS Setup* to the default entries, select *Load Setup Default* and *Yes*.

Discard Changes

To load the values of all the menus of *BIOS Setup* that were in effect when *BIOS Setup* was called, select *Discard Changes* and *Yes*. If you want to exit *BIOS Setup* with these settings, select *Exit Saving Changes* and *Yes*.

Save Changes

To save settings without exiting *BIOS Setup*, select *Save Changes* and *Yes*.

Troubleshooting and tips

Take note of the safety hints in the "Important notes" chapter, when you connect or disconnect cables.

If a fault occurs, try to correct it as described. If you fail to correct the problem, proceed as follows:

- ► Make a note of the steps and the circumstances that led to the fault. Also make a note of any error messages displayed.
- ► Switch the notebook off.
- ► Contact your sales outlet or our customer service centre.

Restoring the hard disk contents under Windows

All hard disk contents are deleted during hard disk restoration. Operating system, drivers and software utilities must be reinstalled. It is therefore recommended to save important data to a backup medium before restoring the hard disk contents.

With the "Windows Recovery CD" you can restore the operating system on your notebook.

With the "Drivers & Utilities" CD you can restore some of the programmes from the original software and your notebook's original operating system onto your hard disk.

- ► Switch the notebook off.
- ► Insert the "Windows Recovery CD" into the optical drive.
- ► Restart the notebook.
- ► Follow the instructions on the screen.

A high level of computer expertise is required in order to partition the hard disk manually.

You must then reinstall all the drivers. Use the "Drivers & Utilities" CD provided.

The notebook's date or time is incorrect

► Double-click on the clock in the task bar and adjust the time.

or

► Set the time and/or date in the *BIOS Setup* menu *Main*.

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If the date and time are repeatedly incorrect when you switch on the notebook, the buffer battery that supplies the internal clock is dead.

Connect the notebook via its power adapter to a grounded mains outlet or install a fresh battery. The buffer battery will take approximately two days to complete its recharge. If that problem exists further more please contact our service.

Battery indicator no longer appears in status indicator panel

If the battery indicator does not appear in the status indicator panel, no battery is installed or there is no contact between the notebook and the battery.

► Check whether the battery is installed correctly in its compartment.

or

► Charge the battery.

If this does not succeed, you must change the battery for a new one. When you dispose of used batteries, please observe the safety instructions in the "Important notes" chapter.

The LCD screen of the notebook remains blank

If your LCD screen remains blank this may be due to the following:

LCD screen is switched off

► Press a key or enter the password

External monitor or television set connected

► In *BIOS-Setup* in the *Advanced* - *Video Features* menu set the *Display Settings* setting to *Internal Flat Panel*.

The LCD screen is difficult to read

If the LCD screen display is hard to read, it can be due to the following:

Reflection

► Turn the notebook or alter the tilt of the LCD screen.

Brightness control is set to dark

► Set the brightness control of the LCD screen to bright.

The external monitor stays blank

If your screen remains blank this may be due to the following:

Monitor is switched off

► Switch the external monitor on.

Power saving has been activated (screen is blank)

► Press any key to continue.

Brightness control is set to dark

► Adjust the brightness control.

Screen output is set to the notebook's LCD screen

► Press the key combination **Fn** + **F10** (selecting internal/external display).

The external monitor's power cable or data cable is not connected properly

► Switch off the external monitor and the notebook.

► Check whether the power cable is plugged properly into the external monitor and into the power socket.

► Check whether the data cable is properly connected to the notebook and the external monitor (if it is plugged in with a connector).

► Switch on the external monitor and the notebook.

The external monitor is blank or the image is unstable

The wrong external monitor has been selected or the wrong screen resolution has been set for the application programme.

► Terminate the application programme in Windows with **Alt** + **F4**. If the fault continues to occur after ending the programme, switch over to the notebook's internal LCD screen with **Fn** + **F10** and carry out the following routine:

► Select the correct monitor or set the correct screen resolution.

– Select the screen: *Start* - *Settings* - *Control Panel* - *Display* - *Settings* - *Advanced* - *Monitor*

– Set the screen resolution: *Start* - *Settings* - *Control Panel* - *Display* - *Settings*, *Resolution* field

The notebook cannot be started

If the notebook does not start after switch on, this may be due to one of the following:

The battery is not installed correctly

► Switch the notebook off.

► Check whether the battery is installed correctly in its compartment.

► Switch the notebook on.

The battery is dead

► Charge the battery.

or

► Install a charged battery.

or

► Connect the power adapter to the notebook.

The power adapter is not connected correctly

► Switch the notebook off.

► Check whether the power adapter is connected correctly to the notebook.

► Check whether the power cable is plugged properly into the power adapter and into the mains outlet. The indicator on the power adapter should illuminate.

► Switch the notebook on.

The notebook stops working

If the notebook stops working, this may have the following reasons:

The notebook is in Standby or Suspend mode

► Reactivate the notebook by pressing a key (Standby mode) or by switching it back on (Suspend mode).

An application programme has caused the malfunction

► Close the application programme or restart the notebook by switching it on/off or with a warm boot.

The battery is dead

► Charge the battery.

or

► Install a charged battery.

or

► Connect the power adapter to the notebook.

The mouse does not work

If the connected mouse does not work, it can have the following reasons:

Touchpad driver is not installed properly

► Deinstall the touchpad driver.

► Install the actual driver from the "Drivers & Utilities" CD.

Mouse driver is not loaded

► Check whether the correct mouse driver is properly installed and is present before the application programme is started.
Detailed information can be found in the User guides for the mouse or application programme.

Mouse is not connected

► Switch the notebook off.

► Check whether the mouse cable is correctly connected to the notebook.
If you use an adapter or extension lead with the mouse cable, check the connections.

► Switch the notebook on.

The printer does not print

► Make sure that the printer is switched on and is on-line (see the manuals supplied with the printer).

► Check that the cable connecting the notebook and the printer is connected properly.

► Check that the correct printer driver is installed.

► Check the entry for the port used in the *BIOS Setup* in the *Advanced - Serial/Parallel Port Configurations* menu. The respective entry in the fields of *Serial Port* or *Parallel Port* must match the setting in the application programme under Windows.

Acoustic warnings

A beep sounds every few seconds

The battery is almost flat.

► Charge the battery.

Error messages on the screen

This section describes the error messages generated by the *BIOS Setup*. Error messages displayed by the operating system or programmes are described in the relevant documentation.

CMOS Battery Bad

If the error message occurs repeatedly, then the buffer battery in the notebook is flat.

► Connect the notebook via its power adapter to the mains outlet. The buffer battery will take approximately two days to complete its recharge.

If the error message appears repeatedly, please contact the place of purchase or our customer service centre.

System CMOS checksum bad - Default configuration used

The system configuration information is incorrect.

► Switch the notebook off.

► Switch the notebook on.

► Enter the *BIOS Setup* programme by pressing **F2**.

► Select the *Exit* menu in the *BIOS Setup*.

► Select the *Default Setup* entry and click on *OK*.

If the error message appears repeatedly, please contact the place of purchase or our customer service centre.

Extended memory failed at offset: xxxx Failing Bits: zzzz zzzz

When testing the extended memory an error has resulted at the address xxxx.

► Check whether the additional memory module has been inserted correctly.

Should you receive this error message again, please contact your dealer.

Failure Fixed Disk n

The settings of the hard disk drive are incorrect.

► Start the *BIOS Setup* (*Primary Master* submenu) and select the correct settings.

Keyboard controller error

► Switch off the notebook with the Suspend/Resume button.

► Wait 3 - 5 seconds and switch on the notebook again.

Should you receive this error message again, please contact your dealer.

Keyboard error

If you use an external keyboard:

► Check the connection and reboot the notebook.

Should you receive this error message again, please contact your dealer.

nn Stuck key

► Make sure that no key is pressed.

Should you receive this error message again, please contact your dealer.

Operating system not found

► Check in the *BIOS Setup* whether your hard disk has been set correctly.

► Make sure that the operating system is installed on the corresponding drive.

Press <F1> to resume, <F2> to SETUP.

This error message appears if an error occurs during the self-test before starting the operating system.

► Press the F1 function key to start the operating system.

► Enter the *BIOS Setup* programme by pressing F2.

Previous boot incomplete - Default configuration used

Due to an error during the previous system boot, default values were used for certain settings. Check the *BIOS Setup* and the settings.

► Press the F1 function key when prompted to do so.

Real Time clock error

► Contact your dealer.

nnnnK Shadow RAM failed at offset: xxxx Failing Bits: zzzz

► Contact your dealer.

System battery is dead - Replace and run SETUP

► Contact your dealer.

System cache error - Cache disabled

► Contact your dealer.

System timer error

► Contact your dealer.

Technical data

Notebook

Processor:	Intel Pentium M from 1.5 or Celeron from 1.3 GHz
Main memory:	Maximum 2 Gbyte DDR333 SDRAM DIMM 2 slots for 256, 512-Mbyte modules or 1-Gbyte modules
Possible modules:	● Hard disk drive ● DVD-ROM drive ● Combo drive (CD-RW/DVD) ● DVD+RW drive ● Second battery ● Weight Saver

Electrical data

Regulations complied with:	CE, CE!, Energy Star
Protection class:	II
Maximum power draw: (notebook on with battery charging)	60 W

LCD screen

Display diagonal:	14.1-inch XGA TFT
Max. resolution / colours:	1024 x 768 / 2^{18} colours

Screen controller

Chip:	Intel 855GME Internal Graphics
Video memory (VRAM):	32/64 Mbyte (UMA)
Recommended screen resolution of the external monitor (21 inch):	Maximum of 1600 x 1200/16.7 million colours at 85 Hz

Audio

Soundchip:	SigmaTel ST9751T

Input devices

Keyboard:	85 keys
Touchpad:	2 buttons and 1 scroll button

Slots

PC Card slots (CardBus/PCMCIA):	PCMCIA 2 x Type I or II or 1 x Type III
PC card controller:	O2Micro OZ711E1-D2

Connections on notebook

● Monitor port:	15-pin female connector
● Modem port:	connector, RJ11
● LAN connector:	connector, RJ45
● Line In socket:	3.5 mm stereo mini jack
● Microphone jack:	3.5 mm mono mini-jack
● Headphone port:	3.5 mm stereo mini jack
● FireWire port:	S400, 4-pin
● USB port:	3x USB 2.0
● Infrared interface:	IrDA 1.1
● Docking port:	100-pin

Ports on the Port Replicator

● LAN connector:	connector, RJ45
● Serial port:	9-pin plug
● DVI-D port:	25-pin female connector, digital
● Monitor port:	15-pin female connector, analogue
● Parallel port:	25-pin female connector
● PS/2 port:	6-pin mini DIN female connector
● USB port:	4x USB 2.0
● Headphone port:	3.5 mm stereo mini jack
● Microphone jack:	3.5 mm mono mini-jack
● Docking port:	100-pin

Environmental conditions

Environment class 7K1	DIN IEC 721
Mechanical class 7M2	DIN IEC 721
Temperature:	
● Operating (7K1)	5 °C .... 35 °C
● Transport (2K2)	-15 °C .... 60 °C

Dimensions

Width/depth/height:	306 mm/247 mm/33 mm
Weight with Weight Saver:	approx. 1.75 kg

Battery

Rated voltage:	10.8 V
Rated capacity:	51.8 Wh
Charge time:	approx. 3.5 hours (when switched off)
Operating time with a battery:	approx. 3.5 hours (depending on application and power management settings)

Power adapter 60 W

Main
- Rated voltage: 100 V to 240 V (automatic)
- Frequency: 50 Hz to 60 Hz (automatic)

Sub
- Rated voltage: 19 V
- Max. rated current: 3.16 A

You can readily order an additional power adapter and an additional power cable.

Power adapter 80 W

Main
- Rated voltage: 100 V or 240 V (automatic)
- Frequency: 50 Hz to 60 Hz (automatic)

Sub
- Rated voltage: 19 V
- Max. rated current: 4.22 A

You can readily order an additional power adapter and an additional power cable.

Manufacturer’s notes

Recycling and disposal

Do not throw batteries or accumulators into the household waste.

Our devices are mostly produced of materials that can be turned over for proper recycling. The device may be taken back after use to be recycled, provided that it is returned in a condition that is the result of normal use. Any components not reclaimed will be disposed of in an environmentally acceptable manner. To give back a device please take advantage of your country's disposal and recycling possibilities.

Further information about country-specific disposal and recycling possibilities can be found on the following website *www.fujitsu-siemens.com/recycling*.

If you have any questions on disposal, please contact your local office or our Help Desk.

Energy Star

The notebook from Fujitsu Siemens Computers is designed to conserve electricity by dropping to less than 8 W when it goes into standby/suspend mode and to less than 3 W when it goes into OFF mode. With this new power management the LIFEBOOKS Series qualifies for the U.S. Environmental Protection Agency's (EPA) Energy Star Computers award.

The EPA estimates that computer equipment uses 5 % percent of all business electricity and that this is growing rapidly. If all desktop PCs and peripherals enter a low-power mode when not in use, the overall savings in electricity could amount to $ 2 milliard annually. These savings could also prevent the emission of 20 million tons of carbon dioxide into the atmosphere - the equivalent of 5 million automobiles.
As an Energy Star Partner, Fujitsu Siemens Computers GmbH has determined that this product meets the Energy Star guidelines for energy efficiency.

CE marking

CE marking for devices without wireless LAN/ Bluetooth

The shipped version of this device complies with the requirements of the EEC directives 89/336/EEC "Electromagnetic compatibility" and 73/23/EEC "Low voltage directive".

CE marking for devices with wireless LAN /Bluetooth

This equipment complies with the requirements of Directive 1999/5/EC of the European Parliament and Commission from 9 March, 1999 governing Radio and Telecommunications Equipment and mutual recognition of conformity.

This notebook is approved for use in Belgium, Denmark, Germany, Finland, Greece, Great Britain, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Sweden, Switzerland, Spain, Iceland, Liechtenstein and Norway. Contact the corresponding government office of the respective country for current information on possible operating restrictions. If your country is not included in the list, then please contact the corresponding supervisory authority as to whether the use of this product is permitted in your country.

Regulatory notices

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This device may only be introduced to the US trading area if it has an FCC logo and possibly also an FCC ID, and if it satisfies the associated technical criteria.

Regulatory information for notebooks without radio device

NOTICE:

Changes or modifications not expressly approved by Fujitsu Siemens Computers could void this user's authority to operate the equipment.

Notice to Users of Radios and Television

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet that is on a different circuit than the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device.

Notice to Users of the US Telephone Network

Your notebook may be supplied with an internal modem which complies with Part 68 of the FCC rules. On this notebook is a label that contains the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment among other information. If requested, the user must provide their telephone company with the following information:

1. The telephone number to which the notebook is connected.
2. The Ringer Equivalence Number (REN) for this equipment.
3. The equipment requires a standard modular jack type USOC RJ-11C which is FCC Part 68 compliant.
4. The FCC Registration Number.

This equipment is designed to be connected to the telephone network or premises wiring using a standard modular jack type USOC RJ-11C which is FCC Part 68 compliant and a line cord between the modem and the telephone network with a minimum of 26AWG.

The REN is used to determine the number of devices that you may connect to your telephone line and still have all of those devices ring when your number is called. Too many devices on one line may result in failure to ring in response to an incoming call. In most, but not all, areas the sum of the RENs of all of the devices should not exceed five (5). To be certain of the number of devices you may connect to your line, as determined by the RENs, contact your local telephone company.

If this equipment causes harm to the telephone network, your telephone company may discontinue your service temporarily. If possible, they will notify you in advance. If advance notice is not practical they will notify you as soon as possible. You will also be advised of your right to file a complaint with the FCC.

This fax modem also complies with fax branding requirements per FCC Part 68.

Your telephone company will probably ask you to disconnect this equipment from the telephone network until the problem is corrected and you are sure that the equipment is not malfunctioning. This equipment may not be used on coin-operated telephones provided by your telephone company. Connection to party lines is subject to state tariffs. Contact your state's public utility commission, public service commission or corporation commission for more information.

This equipment includes automatic dialing capability. When programming and/or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in off-peak hours, such as early morning or late evening.

FCC rules prohibit the use of non-hearing aid compatible telephones in the following locations or applications:

- All public or semipublic coin-operated or credit card telephones.
- Elevators, highways, tunnels (automobile, subway, railroad or pedestrian) where a person with impaired hearing might be isolated in an emergency.
- Places where telephones are specifically installed to alert emergency authorities such as fire, police or medical assistance personnel.
- Hospital rooms, residential health care facilities, convalescent homes and prisons.
- Hotel, motel or apartment lobbies.
- Stores where telephones are used by patrons to order merchandise.
- Public transportation terminals where telephones are used to call taxis or to reserve lodging or rental cars.
- In hotel and motel rooms as at least ten percent of the rooms must contain hearing aid-compatible telephones or jacks for plug-in hearing aid compatible telephones which will be provided to hearing impaired customers on request.

DOC (INDUSTRY CANADA) NOTICES

Notice to Users of Radios and Television

This Class B digital apparatus meets all requirements of Canadian Interference-Causing Equipment Regulations.

CET appareil numérique de la class B respecte toutes les exigence du Réglement sur le matérial brouilleur du Canada.

Notice to Users of the Canadian Telephone Network

NOTICE:

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications.

This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment. Before connecting this equipment to a telephone line the user should ensure that it is permissible to connect this equipment to the local telecommunication facilities. The user should be aware that compliance with the certification standards does not prevent service degradation in some situations.

Repairs to telecommunication equipment should be made by a Canadian authorized maintenance facility. Any repairs or alterations not expressly approved by Fujitsu or any equipment failures may give the telecommunication company cause to request the user to disconnect the equipment from the telephone line.

NOTICE:

The Ringer Equivalence Number (REN) for this terminal equipment is 0.0. The REN assigned to each terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

CAUTION:

For safety, users should ensure that the electrical ground of the power utility, the telephone lines and the metallic water pipes are connected together. Users should NOT attempt to make such connections themselves but should contact the appropriate electric inspection authority or electrician. This may be particularly important in rural areas.

Avis Aux Utilisateurs Du Réseau Téléphonique Canadien

AVIS : Le présent matériel est conforme aux spécifications techniques d'Industrie Canada applicables au matériel terminal. Cette conformité est confirmée par le numéro d'enregistrement. Le sigle IC, placé devant le numéro d'enregistrement, signifie que l'enregistrement s'est effectué conformément à une déclaration de conformité et indique que les spécifications techniques d'Industrie Canada ont été respectées. Il n'implique pas qu'Industrie Canada a approuvé le matériel.

Avant de connecter cet équipement à une ligne téléphonique, l'utilisateur doit vérifier s'il est permis de connecter cet équipement aux installations de télécommunications locales. L'utilisateur est averti que même la conformité aux normes de certification ne peut dans certains cas empêcher la dégradation du service.

Les réparations de l'équipement de télécommunications doivent être eVectuées par un service de maintenance agréé au Canada. Toute réparation ou modification, qui n'est pas expressément approuvée par Fujitsu, ou toute défaillance de l'équipement peut entraîner la compagnie de télécommunications à exiger que l'utilisateur déconnecte l'équipement de la ligne téléphonique.

AVIS : L'indice d'équivalence de la sonnerie (IES) du présent matériel est de 0.0. L'IES assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

AVERTISSEMENT :

Pour assurer la sécurité, les utilisateurs doivent vérifier que la prise de terre du service d'électricité, les lignes télphoniques et les conduites d'eau métalliques sont connectées ensemble. Les utilisateurs NE doivent PAS tenter d'établir ces connexions eux-mêmes, mais doivent contacter les services d'inspection d'installations électriques appropriés ou un électricien. Ceci peut être particulièrement important en régions rurales.

UL Notice

This unit requires an AC adapter to operate. Use only UL Listed Class 2 adapter, output rating 19 V DC, 4.22 A. Refer to the illustration below for the correct AC Adapter output polarity:

CAUTION:

To reduce the risk of fire, use only 26AWG or larger telecommunications line cord.

For Authorized Repair Technicians Only

CAUTION:

For continued protection against risk of fire, replace only with the same type and rating fuse.

WARNING:

Danger of explosion if Lithium (CMOS) battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instruction.

FCC Regulatory information for notebooks with radio device

Federal Communications Commission statement

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of this device.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the distance between the equipment and the receiver.
3. Connect the equipment to an outlet on a circuit different from the one the receiver is connected to.
4. Consult the dealer or an experienced radio/TV technician for help.

Please note the following regulatory information related to the optional radio device.

FCC Radio Frequency Exposure statement

This radio device has been evaluated under FCC Bulletin OET 65C and found compliant with the requirements as set forth in CFR 47 Sections 2.1091, 2.1093, and 15.247 (b) (4) addressing RF Exposure from radio frequency devices. The radiated output power of this radio device is far below the FCC radio frequency exposure limits. Nevertheless, this device shall be used in such a manner that the potential for human contact during normal operation is minimized. When using this device, a certain separation distance between antenna and nearby persons must be maintained to ensure RF exposure compliance. In order to comply with RF exposure limits established in the ANSI C95.1 standards, the distance between the antennas and the user should not be less than 20 cm (8 inches).

Regulatory Notes and Statements

Radio device, health and authorisation for use

Radio-frequency electromagnetic energy is emitted from the wireless devices. The energy levels of these emissions, however, are far much less than the electromagnetic energy emissions from wireless devices such as mobile phones. Radio devices are safe for use by consumers because they operate within the guidelines found in radio frequency safety standards and recommendations.

The use of the radio devices may be restricted in some situations or environments, such as:

- on board an airplane, or
- in an explosive environment, or
- in situations where the interference risk to other devices or services is perceived or identified as harmful.

In cases in which the policy regarding use of radio devices in specific environments is not clear (e.g., airports, hospitals, chemical/oil/gas industrial plants, private buildings), obtain authorization to use these devices prior to operating the equipment.

Regulatory Information/Disclaimers

Installation and use of this radio device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution or attachment of connecting cables and equipment other than those specified by the manufacturer. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. The manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failure to comply with these guidelines.

Export restrictions

This product or software contains encryption code which may not be exported or transferred from the US or Canada without an approved US Department of Commerce export license. This device complies with Part 15 of FCC Rules, as well as ICES 003 B / NMB 003 B. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesirable operation.

Modifications not expressly authorized by Fujitsu Siemens Computers may invalidate the user's right to operate this equipment.

Radio frequencies for devices with wireless LAN/Bluetooth

The following information represents the status of January 2002. Current information is available from the corresponding government office of your country (e.g. *www.regtp.de*).

Frequencies

Wireless network cards and adapters are intended for operation in the ISM (Industrial, Scientific, Medical) frequency range between 2.4 and 2.4835 GHz in accordance with the IEEE 802.11b standard. As each of the 11 usable radio channels requires a bandwidth of 22 MHz due to the DSSS (Direct Sequence Spread Spectrum) process, a maximum of three mutually independent channels (e.g. 3, 8 and 11) are available. In the following tables you will find the channels permitted in your country:

Channel No. / MHz	Europe, R&TTE	France, R&TTE
1 / 2412	X	
2 / 2417	X	
3 / 2422	X	
4 / 2427	X	
5 / 2432	X	
6 / 2437	X	
7 / 2442	X	
8 / 2447	X	
9 / 2452	X	
10 / 2457	X	X
11 / 2462	X	X

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